DOCUMENT RESUME

ED 072 757 HE 003 808

TITLE Financing Postsecondary Education in California.
INSTITUTION Academy for Educational Development, Inc., Palo Alto, Calif. Western Region.; California State Legislature, Sacramento. Joint Committee on the Master Plan for Higher Education.
PUB DATE Jan 73
NOTE 128p.

EDRS PRICE MF-$0.65 HC-$6.58
DESCRIPTORS *Educational Finance; *Financial Problems; Financial Support; *Higher Education; *Post Secondary Education; *Statewide Planning

ABSTRACT

This document presents an overview of the financial aspects of postsecondary educational institutions in California and suggests some recommendations for the alleviation of financial problems. The study consisted of extensive research of the current literature on financing, gathering key data on the California system, reviewing the pertinent testimony presented to the California legislature, and discussing financing problems with key persons in the state government and in each institutional segment. Some of the findings of the investigations include: (1) the public segments feel that they have been forced to educate increasing numbers of students with funds that, in terms of constant dollars, have not risen as rapidly as enrollments; (2) student financial aid needs are only partially being met, and both grants and loans are inadequate to meet the state's goal of open access to postsecondary education; and (3) competition for funding among the segments is intense and wasteful, and has had effects ranging from duplication of efforts and lack of cooperation to mild paranoia. (HS)

ED 072757

FINANCING POSTSECONDARY EDUCATION IN CALIFORNIA

ACADEMY FOR EDUCATIONAL DEVELOPMENT, INC.

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

HE 003 802

PREPARED FOR

JOINT COMMITTEE ON THE MASTER PLAN FOR HIGHER EDUCATION
CALIFORNIA LEGISLATURE

ED 072757

FINANCING POSTSECONDARY EDUCATION IN CALIFORNIA

Academy for Educational Development, Inc.
Palo Alto, California
Washington, D.C.
Akron, Ohio
New York
Paris

Prepared for

JOINT COMMITTEE ON THE MASTER PLAN FOR HIGHER EDUCATION

California Legislature
Assembly Post Office Box 83
State Capitol
Sacramento, California 95814

Assemblymen	Senators
John Vasconcellos (Chairman)	Howard Way (Vice Chairman)
Willie Brown	Alfred Alquist
Jerry Lewis	Dennis Carpenter
Ken Meade	Mervyn Dymally
John Stull	Albert Rodda

Patrick M. Callan, Consultant
Daniel Friedlander, Assistant Consultant
Sue Powell, Assistant Consultant
Elizabeth Richter, Secretary

January, 1973

This is one of a series of policy alternative papers commissioned by the California Legislature's Joint Committee on the Master Plan for Higher Education.

The primary purpose of these papers is to give legislators an overview of a given policy area. Most of the papers are directed toward synthesis and analysis of existing information and perspectives rather than the gathering of new data. The authors were asked to raise and explore prominent issues and to suggest policies available to the Legislature in dealing with those issues.

The Joint Committee has not restricted its consultants to discussions and recommendations in those areas which fall exclusively within the scope of legislative responsibility. The authors were encouraged to direct comments to individual institutions, segmental offices, state agencies -- or wherever seemed appropriate. It is hoped that these papers will stimulate public, segmental and institutional discussion of the critical issues in post-secondary education.

ACADEMY FOR EDUCATIONAL DEVELOPMENT, INC
a nonprofit planning organization

January, 1973

The Honorable John Vasconcellos, Chairman
Joint Committee on the Master Plan for
  Higher Education
California Legislature
Sacramento, California 95814

Dear Mr. Vasconcellos:

We are pleased to submit this report on financing post-secondary education in California in fulfillment of our contract LCB# 12046.

We were fortunate in that this study closely paralleled a concurrent study made for the State of Washington. With the agreement of both state staffs, we were able to combine much of the research and development of methodologies in the two studies, to the advantage of all concerned. Thus many parts of the text are essentially common to the two studies.

In the course of making this study, we interviewed many persons in California state agencies and the legislative staffs, and spokesmen for the several segments of the California system. All were cooperative and responsive, and we owe our thanks to each person who took the time to help us identify and clarify existing problems. Special thanks are due to the California State Scholarship and Loan Commission for sharing with us the data from the Student Resources Survey which was conducted during the course of our study. We also worked closely with members of your Committee staff and would like to thank them for their valuable assistance and their patience.

We hope that this report will help to stimulate open discussion of the alternative courses open to California in meeting the financing problems of the future.

Sincerely,

Alvin C Eurich
Alvin C. Eurich
President

Robert R. Hind
Director
Western Region

PALO ALTO OFFICE: 770 WELCH ROAD, PALO ALTO, CALIFORNIA 94304 (415) 327-2270

TABLE OF CONTENTS

REPORT SUMMARY. 1

SECTION 1: INTRODUCTION 3

SECTION 2: WHO BENEFITS 17

SECTION 3: PRICING AND STUDENT AID 25

SECTION 4: STUDENT LOANS 37

SECTION 5: CURRENT PRACTICES IN STATE FINANCING 50

SECTION 6: PRODUCTIVITY 60

SECTION 7: SOME OPTIONS FOR CALIFORNIA 65

APPENDICES:

1. The Federal Role. 83

2. Theoretical Issues of Cost-Benefit Analysis. 85

3. Summary of Student Resources Survey . . . 103

BIBLIOGRAPHY. 115

REPORT SUMMARY

SECTION 1 - Increased funding will be required in the coming decade to accommodate the demands of increasing enrollments of college age and older students. Added funds will have to come from within the state, in the near future, since philanthropic dollars are unlikely to grow, and substantial increases in federal funds are several years off. The state itself, and users of the system, must carry most of the burden.

SECTION 2 - Cost-benefit analysis is of limited utility in determining who should pay for post-secondary education. Clearly there are societal benefits, for which society should pay; there are also benefits to participating individuals for which they might be expected to pay. But there is no agreement on how to strike a balance. Although cost-benefit analysis does not provide us with the easy answers, it does highlight the major option open to decision-makers: determination of how much students should pay, with the understanding that society pays the rest.

SECTION 3 - Pricing -- tuition charges and student aid -- then, can be looked upon as the major variables. Low tuition is the traditional method of assuring wide access to post-secondary education, but the device has not worked to open opportunity equally to all. Full cost pricing, if coupled with need-based student aid, can maximize access, but might be highly disruptive for many middle income students.

SECTION 4 - Student loans provide an increasingly attractive aid device, regardless of the selected financing pattern. California could operate a direct loan program, underwrite student loans under a guarantee program, or adopt a program with the major features of deferred tuition plans under which borrowers repay in proportion to their earnings after leaving college.

SECTION 5 - The various states have adopted, or are considering, a number of different approaches to coping with their financing problems. The differences seem in part to reflect variations in public-private balance, tradition, and goals. They provide a variety of models to be considered and watched.

SECTION 6 - Present levels of financing can be made more effective by adopting new technologies and methods of instruction for selected courses, new ways to extend the campus walls, and improved methods of management control. The state should provide financial inducements for development and pilot testing of innovations directed toward improving productivity.

SECTION 7 - The major financing options now open to California, if it wishes to achieve the goals of high quality, accessibility, equity, and responsiveness to state needs, include:

1. Make the present system more equitable and effective in providing wide access by directing added funds to student financial aid and establishing an effective student loan program.

2. Move to full cost pricing, with massive financial aid to needy students.

3. Move part of the way toward full cost pricing, with necessary accompanying student aid.

4. Adopt a variable pricing system which reflects differences in instructional costs, either by program, or by level.

Selection of one or more of these options is sure to be influenced by the effect of 1972 federal legislation, which provides for basic grants to needy students of $1400 per year, with additional grants for disadvantaged students. Although the full funding that will permit top grant payments may be some years off, any progress toward full funding is likely to push states to charge fees that will raise student costs to levels high enough to draw the maximum federal subsidy. Such subsidies, one way or another, will shift a part of the cost burden from the state to the federal government.

1. INTRODUCTION

The study that led to the development of this report began with the premise that virtually every institution and system of post-secondary education faces serious financial problems. Caught between costs which are rising more rapidly than the general price level, and income which is rising less rapidly due to the competition of other demands which seem more compelling to those who decide how money is to be spent, educational planners have been forced to seek new ways to stretch academic dollars. It is to this task that we address ourselves.

We have not had the time or resources to make a precise, definitive analysis and projection of financing patterns. Rather, we have taken a broad brush approach, concentrating more on the theoretical and philosophical background which might stimulate uninhibited debate of the alternative directions financing might take.

Since this is one of a number of special reports for the Joint Committee, we have not attempted to make it comprehensive by elaborating in detail the existing characteristics of the California system. We assume that the reader is familiar with the structure of the system, informed by the companion reports and by the many other studies and documents produced by state agencies. Suffice it to say that it is the nation's largest system, that it has grown rapidly in recent years, that its quality is high and its range broad. In order to maintain perspective, it seems important to draw attention to the enrollment distribution among the various segments, which were as follows, in 1971-72:

	FTE*	Percent
University of California	101,026	10.3%
State University & Colleges	211,025	21.5%
Community Colleges (ADA)	572,636	58.2%
Independent Institutions	98,482	10.0%
	983,169	100.0%

---

*Full-time equivalent enrollment, except for the Community Colleges which report only average daily attendance (ADA). ADA and FTE are only approximately interchangeable (ADA apparently overstates full-time enrollment), leading to inaccuracy in any computation based on enrollments. This discrepancy was probably the most exasperating we encountered. Although we

Although enrollments are one indication of the magnitude and importance of the various segments, they do not reflect the important research and service functions of higher education, nor the greater demands of advanced scholarship. These latter functions are of course concentrated most heavily in the four-year institutions, and particularly in the University of California and some of the independent universities.

Our study consisted of extensive research of the current literature on financing, gathering key data on the California system, reviewing the pertinent testimony presented to the Joint Committee and other state reports, and discussing financing problems with key persons in the state government and in each institutional segment. It would be impossible to summarize here all the views we received, but some highlights and interpretations are worth noting:

1. The public segments feel that they have been forced to educate increasing numbers of students with funds that, in terms of constant dollars, have not risen as rapidly as enrollments.

   The Community Colleges, which provide more than half of the post-secondary education, suffer from an anachronistic and inflexible funding formula that lingers from the days when these institutions were simply extensions of high schools. State support, which has sagged to around 30 percent of costs (with the rest of the burden falling on local districts of unequal wealth), is appropriated as part of the school fund covering years K-14; certainly a segment of this magnitude should have independent consideration by the Legislature. The present formula is statutorily fixed in dollars whose purchasing power continues to decline. Furthermore, the cumbersome ADA formula adapted from the lower schools takes no account of cost differences among programs, and does not reimburse counseling programs which urgently need improvement in just those districts which need them most because they are serving disproportionate numbers of educationally handicapped students. The community college board favors formula funding because its objectivity of allocation helps to preserve local autonomy, but would prefer a shift toward

---

were not asked to make recommendations in this study, only to review alternatives, we feel compelled to urge that the state require the development of comparable and consistent data from the various segments. It seems ironic that at a time when institutions are developing highly sophisticated analytic tools for intra-institutional and intra-segmental analysis that state-level planners must deal with incomplete information.

state, rather than local, support in keeping with the general effort to relieve local tax burdens and to restore equity to all users of public systems.

The public four-year institutions, all of which are engaged in the development of new approaches to cope with a changing educational ambience and new student needs (and in this, on the basis of our observations, clearly lead the nation), are troubled by uncertainty in financing. Year-to-year appropriations, without any long-range commitments on which to build long-range programs, are seriously hampering innovative efforts; even creative and imaginative people need the assurance that they can see their endeavors through. Continued myopic appropriations procedures can only serve to submerge creativity in a search for security, with a consequent loss to the more innovative components of the California system of their best people.

2. Student financial aid needs are only partially being met. Both grants and loans are inadequate to meet the state's goal of open access to post-secondary education.

   The four-year institutions are concerned that "self help" -- loans and work-study -- have become too large a proportion of the student aid framework. California's student grant program has been effectively managed by the State Scholarship and Loan Commission, but its total volume is trivial as compared with need and with the efforts of most other states (see Section 7 and Table 5 on page 50a). Consistent with the generally observed pattern that low student charges lead to low levels of student aid, the Community Colleges, which are free in California, have very small amounts of aid funds to disburse and some have none at all. This shortcoming surely keeps, or drives, many capable students out of the system.

3. Competition for funding among the segments is intense and wasteful, and has had effects ranging from duplication of efforts and lack of cooperation to mild paranoia.

Some National Comparisons

Despite problems within the system, higher education in California has done reasonably well for itself relative to other states. The quality of the system is undisputed. The tables on the following pages show that the state is above the national median (though not always above the average or mean) in the amounts directed toward post-secondary education and the level of participation in the system.

Comparisons Over Time

Table 4 traces the growth of budgets for the public systems over the last few years, and demonstrates that over-all, Californians have modestly increased the proportion of public revenues devoted to post-secondary education, contrary to the general belief that other public services have cut into education appropriations. The University of California, by contrast, has slipped in its share of state funds despite a 38 percent increase in dollar appropriations over the last six years.

TABLE 1

Combined State and Local Appropriations for Higher Education Per Equivalent Full Time Student--1970-1971

	State	Appropriations Per Student		State	Appropriations Per Student
1.	Alaska	$3288	26.	Vermont	$1433
2.	New York	2718	27.	Ohio	1403
3.	Illinois	2457	28.	Wyoming	1400
4.	Kentucky	2132	29.	Missouri	1389
5.	New Jersey	1978	30.	Arkansas	1386
6.	Hawaii	1968	31.	Delaware	1360
7.	Pennsylvania	1930	32.	Arizona	1348
8.	North Carolina	1788	33.	Colorado	1343
9.	Georgia	1770	34.	Massachusetts	1337
10.	Wisconsin	1758	35.	West Virginia	1337
11.	Florida	1722	36.	Minnesota	1335
12.	Mississippi	1718	37.	Kansas	1332
13.	Connecticut	1717	38.	New Mexico	1258
14.	Iowa	1710	39.	Oregon	1250
15.	South Carolina	1691	40.	Texas	1242
16.	Maryland	1609	41.	Tennessee	1208
17.	Indiana	1597	42.	Nebraska	1179
18.	Washington	1588	43.	Virginia	1102
19.	California	1567	44.	Alabama	1101
20.	Maine	1546	45.	Montana	1086
21.	Rhode Island	1533	46.	Utah	1077
22.	Nevada	1531	47.	South Dakota	1018
23.	Michigan	1500	48.	North Dakota	936
24.	Louisiana	1476	49.	Oklahoma	894
25.	Idaho	1466	50.	New Hampshire	781

Average **$1625**

TABLE 2

Percentage of Student Enrollment in Public Institutions To Total Population--1970-1971

	State	Percent Enrolled
1.	North Dakota	4.42
2.	Arizona	4.35
3.	Montana	4.12
4.	Colorado	4.03
5.	Utah	3.95
6.	Hawaii	3.89
7.	Wyoming	3.87
8.	Oregon	3.84
9.	California	3.83
10.	Washington	3.70
11.	Kansas	3.38
12.	New Mexico	3.31
13.	Wisconsin	3.17
14.	Idaho	3.15
15.	South Dakota	3.15
16.	Oklahoma	3.06
17.	Michigan	2.94
18.	Nebraska	2.84
19.	Minnesota	2.83
20.	Delaware	2.73
21.	Texas	2.69
22.	Mississippi	2.61
23.	West Virginia	2.52
24.	Louisiana	2.42
25.	Missouri	2.30
26.	Vermont	2.30
27.	Maryland	2.27
28.	Rhode Island	2.24
29.	Florida	2.19
30.	Iowa	2.18
31.	Illinois	2.17
32.	Alabama	2.16
33.	Nevada	2.15
34.	Indiana	2.11
35.	North Carolina	2.10
36.	Ohio	2.10
37.	Tennessee	2.09
38.	Virginia	2.08
39.	Arkansas	2.07
40.	Kentucky	1.99
41.	New Hampshire	1.90
42.	Alaska	1.88
43.	Georgia	1.88
44.	Connecticut	1.85
45.	Maine	1.83
46.	New York	1.81
47.	South Carolina	1.61
48.	Pennsylvania	1.55
49.	Massachusetts	1.55
50.	New Jersey	1.28

Average 2.42

TABLE 3

Combined State and Local Appropriations for Higher Education
Per $1000 of Per Capita Personal Income--1970-1971

	State	Appropriations Per $1000 Income		State	Appropriations Per $1000 Income
1.	Mississippi	$20.19	26.	Minnesota	$11.15
2.	Wisconsin	19.15	27.	Texas	11.08
3.	Wyoming	18.87	28.	Georgia	10.85
4.	Arizona	18.12	29.	Alabama	10.82
5.	Hawaii	17.91	30.	Florida	10.49
6.	North Dakota	15.39	31.	South Dakota	10.40
7.	Idaho	15.25	32.	Indiana	10.20
8.	Alaska	14.90	33.	Tennessee	10.08
9.	California	14.67	34.	South Carolina	10.02
10.	Utah	14.33	35.	Vermont	9.99
11.	New Mexico	14.29	36.	Missouri	9.78
12.	Washington	14.09	37.	Delaware	9.67
13.	Colorado	14.01	38.	Arkansas	9.66
14.	North Carolina	13.81	39.	Maine	9.51
15.	Oregon	13.70	40.	Nebraska	9.42
16.	Montana	13.65	41.	Virginia	9.37
17.	Kentucky	13.59	42.	Oklahoma	9.30
18.	West Virginia	13.10	43.	Ohio	8.45
19.	Louisiana	12.84	44.	Rhode Island	8.43
20.	Kansas	11.94	45.	Nevada	8.22
21.	Michigan	11.91	46.	Pennsylvania	7.79
22.	Illinois	11.83	47.	Connecticut	7.50
23.	Maryland	11.64	48.	New Jersey	6.53
24.	New York	11.57	49.	Massachusetts	5.25
25.	Iowa	11.40	50.	New Hampshire	4.75

Average $11.34

Table 4

STATE BUDGET EXPENDITURES FOR HIGHER EDUCATION

(Millions of dollars)

	Total State Budget Expenditures	Expended for U of Calif.		Expended for State U & C		Expended for C.C.'s (1)		Total Public Segment (1) (2)	
		Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
1966-67	4,145	243	5.9%	168	4.1%	71 (232)	1.7% (5.4%)	482 (643)	11.6% (14.9%)
1967-68	4,670	247	5.3%	197	4.2%	82 (250)	1.8% (5.2%)	526 (694)	11.3% (14.3%)
1968-69	5,267	291	5.5%	237	4.5%	105 (319)	2.0% (5.8%)	633 (847)	12.0% (15.5%)
1969-70	6,073	330	5.4%	288	4.7%	127 (377)	2.1% (6.0%)	745 (995)	12.3% (15.7%)
1970-71	6,213	337	5.4%	305	4.9%	163 (451)	2.6% (6.9%)	805 (1093)	13.0% (16.8%)
1971-72	6,471	337	5.2%	305	4.7%	184 (525)	2.8% (7.7%)	826 (1168)	12.8% (17.1%)
1972-73 (request)	7,240	336	4.6%	350	4.8%	222 (588)	3.1% (7.7%)	908 (1274)	12.5% (16.7%)

(1) The amounts in parenthesis are totals of state and local funds. Percent figures in parenthesis represent the proportions of the state's total budget expenditures plus local community college expenditures.

(2) Institutional total only. Excludes state scholarships, etc.

Data from budget reports of the Legislative Analyst.

SOURCES - FOR TABLES 1-4

TABLE 1

1. Chambers, M.M., "Appropriations of State Tax Funds for Operating Expenses of Higher Education, 1970-71", Office of Institutional Research, National Association of Land Grant Colleges, One Dupont Circle, N.W., Washington, D.C.
2. U.S. Department of Commerce, "Governmental Finances in 1969-70", September 1971.
3. U.S. Department of Commerce, "Governmental Finances in 1970", July 1971.
4. U.S. Department of Health, Education and Welfare, "Opening Fall Enrollment in Higher Education, 1970, Report on Preliminary Survey", USOE No. 54003-68, 1969.

TABLE 2

1. U.S. Department of Health, Education and Welfare, "Opening Fall Enrollment in Higher Education, 1970, Report on Preliminary Survey", USOE No. 54003-68, 1969.
2. U.S. Department of Commerce, "Population Estimates and Projections", Series P-25, No. 468, October 5, 1971.

TABLE 3

1. Chambers, M.M., "Appropriations of State Tax Funds for Operating Expenses of Higher Education, 1970-71", Office of Institutional Research, National Association of Land Grant Colleges, One Dupont Circle, N.W., Washington, D.C.
2. U.S. Department of Commerce, "Governmental Finances in 1969-70", September 1971.
3. U.S. Department of Commerce, "Governmental Finances in 1970", July 1971.
4. U.S. Department of Commerce, "Population Estimates and Projections", Series P-25, No. 468, October 5, 1971.
5. U.S. Department of Commerce, "Survey of Current Business", August 1971.

TABLE 4

1. Budget Reports of the Legislative Analyst.

The Demands of the Future

We have not made a detailed analysis of the various state and national enrollment projections which have been made in recent years. In general, though, forecasts call for a slow rate of increase among students of traditional college age in the coming decades. On the other hand, it is likely that the demand for post-secondary education among persons beyond college age will increase. Demands for upgrading of skills and adaptation to a rapidly changing technology will surely increase the numbers of older persons coming into the system for everything from short courses to degree programs.

The final major factor is the influence of policies and programs instituted by the state and the system as they move toward fulfilling the goals of access and equity. If aid and recruitment programs are expanded, naturally we can anticipate enrollment increases.

The number and complexity of these variables makes forecasting risky. Yet they indicate that new and enlarged programs will place increased demands on the state's financial resources.

Fund Demands

Operating funds will have to be increased at roughly the rate of enrollment growth, plus a factor for rising costs; some economies in operation might be made, as we discuss further below, to offset rising operating costs.

In the area of capital costs, we anticipate that the need will be somewhat below the rates of expenditure in recent years. Major needs will be for construction on newly established campuses, to remedy some imbalances, and to provide new or replacement facilities for fields undergoing rapid change or expansion. Serving the needs of more adult and part-time students may call for new kinds of facilities in different kinds of locations.

Offsets to increases in capital needs may be found in at least three ways. First, policies aimed at increasing enrollments in unfilled independent colleges and universities can reduce the need for added space in state institutions. Secondly, leased or improvised facilities could be substituted for regular campus construction in many areas. And third, if a significant portion of the enrollment increase occurs among adult students who are best served by weekend and evening courses, the rate of utilization of present facilities can be increased, obviating the need for much new construction.

In summary, post-secondary education will require increased funding in the coming decade as it expands its range of services. The rate of increase will not be as great as that of the sixties, since the enrollment boom has slowed, but it will be substantial. Our next step is to explore the sources of money for higher education in a search for the best ways to meet present and future needs.

Sources of Funding

Post-secondary education draws its current support from only a few principal sources: the users of its services, state and local governments, the federal government, and philanthropy. Charges to users are subject to both economic limitations and philosophic views, and these will be discussed more fully below. The contributions of federal and philanthropic sources are beyond the control of the state government, which thus has residual responsibility for the care and feeding of the system. Yet when the state feels a pinch in providing support for institutions, there is a temptation to look to these external sources for relief.

New federal higher education legislation promises a substantial increase in support for post-secondary education. Its full implementation will produce major changes in financing patterns which must be taken into account in state planning. But it is unlikely that its full effect will be felt for several years. The time lapse between authorization of programs and major funding can be considerable. Until 1974 or 1975, the states will probably have to depend upon other sources, with added help only in such acute problem areas as instructional programs in the health services and occupational education, and in student aid. New student aid provisions will fundamentally affect financing patterns as they are funded, and this matter is discussed further in later sections.

We can lay to rest as well the likelihood of major help from national foundations, except for limited innovative programs. California's private institutions, in particular, have received important support from individual, business, and foundation philanthropy, and this flow of resources must be encouraged. It should continue to grow at a modest rate, tempered by fluctuations in the economy. For the public institutions, the national foundations can be a source of short-term support for creative ideas in instruction and student support. But from the standpoint of state budget planners, philanthropy is not likely to be an important source of increased support.

Thus it seems apparent that, at least for the next few years, the solution to financial problems will have to be sought within the state's borders, and if present patterns are continued, the bulk of the burden will fall upon the state itself.

Users of the system constitute another potential source of increased revenues. There are basically two types of users: students, who obtain formal instructional services; and others who receive a wide range of services including such diverse activities as basic and applied research, studies, consultation, data accumulation and analysis, and entertainment. Systematic data on policies and practices in these public service areas are not now available, but it appears likely that full cost is not being charged for all such services. Careful analysis of costs, and adoption of a full-pricing policy seems legitimate and fair, and could generate some additional operating revenues.

New data on students' ability to pay, as well as support needs for those less able to pay, has recently become available through a Student Resources Survey conducted by the College Entrance Examination Board in tandem with this study of financing. Appendix 3 consists of a summary of the study results excerpted from the report. The study tells us some remarkable things about the tenacity and resourcefulness of students who want to get an education. Although there is a significant aid gap, as discussed in Section 7, and the evidence that parental contributions to the cost of their children's education falls below expectations, underfunded students do stay in the system. Despite this persistence, the shortage of aid funds must be remedied if universal access is to be achieved. Furthermore, this survey tells us nothing about those persons who were not surveyed: those who never entered the system because of their inability, or at least their perceived inability, to continue their education beyond the secondary level.

Examination of the other end of the scale suggests that many students could pay more for their education. The reciprocal of the above deficit observation tells us that many students who could afford to pay more are enrolled in California's low-cost institutions. With 17.3* percent of community college students and over 35* percent of public four-year institution students coming from families with incomes of over $18,000 per year, according to the SRS analysis, there would appear to be untapped ability to pay.

---

* As reported by respondents to the SRS survey.

Any increase in student payments would have to be accompanied by increased aid for those already below, or who would drop below, the deficit point. Loans would also help to cushion the shock for all.

The Major Options

Finding solutions to the state's post-secondary education financing problems is not a simple matter. Everyone has a stake in the system, and solutions will be found only if all who are directly concerned work at it -- state officials, administrative officers, faculty, and students as well.

The solutions will be found among relatively few options, applied singly and in combination. Some of the major options are:

1. Modify Existing Goals - The state could attempt to alter its goals for post-secondary education by limiting access or modifying the character of its programs. Cutting current services and limiting expansion would cut costs, but at the expense of full development of manpower potential. We assume that such a course of action is unacceptable as a solution to current fiscal problems.

2. Increase State Appropriations - California is already providing substantially to its post-secondary system -- it ranks ninth nationally in proportion of per capita income spent for this purpose. The state could, and probably should, increase its support in key areas such as student aid, but it is doubtful that general fund appropriation increases alone can solve the growing financial problem.

3. Borrow for Operating Funds Through State Bonding - We conclude that this is an unlikely solution because of an unwillingness to mortgage the future of the state to meet current operating needs. An expanded student loan program could, however, produce a similar economic effect by shifting the burden to the future earnings of present students. This option is discussed at some length in Section 4.

4. Increase Productivity - We are convinced that there are ways to make important savings, and to slow cost increases, without reducing quality through uses of new instructional arrangements, organizational patterns, and technologies. These are not, strictly speaking, financial solutions, so they are discussed in detail only in Section 6. Such self-help solutions are a

moral responsibility of college and university personnel if they expect to receive increased support from taxpayers or students and parents. We would like to call particular attention to the suggestion in that section that the state provide financial incentives to institutions to increase their productivity.

5. Shifting More of the Cost to Users - Many of those now making use of the higher education system can afford to pay a larger share of the cost of the services they are receiving. In the area of public service, there can be little argument with the notion of full-cost pricing. In the instructional realm, increases can come from current student and family assets or earnings, or from future student earnings through the use of loans.

   At the same time, equity, as well as the state's social purposes, mandate a student financial aid program which not only protects low income students from increased costs, but which channels more funds than at present into subsidization of economically and socially disadvantaged students. Middle income students as well would have to be protected against the shock of increased costs if they are not to be forced out of the system; a subsidized loan program with reasonable interest and repayment provisions is one device for achieving this end. Much of the rest of this report deals with methods of shifting the burden of instructional costs in an equitable fashion.

2. WHO BENEFITS?

"Cost-benefit analysis" is very much in vogue in these times. It has long been used by planners of public facilities, it has proved effective in military planning, and now education is called upon to utilize the concept in setting priorities for public expenditure. In order to do so, we must respond to such questions as: Who benefits most from the various activities carried on by colleges and universities, private citizens or the population as a whole? And what can the answer to such questions suggest about who should pay?

On the other side of the ledger, we must better define what costs are incurred for what purposes.

Institutional Costs

Before embarking on a review of the argument that has swirled around these questions, we would like to clarify terms by defining the cost elements attributable to institutions of higher education. The principal costs related to the central functions of discovery, preservation and dissemination of knowledge and skills can be grouped as follows:

1. Instructional Costs - All those costs directly attributable to instruction and student counseling, including the appropriate share of the cost of faculty, libraries, administration, professional services, clerical support, etc.; and maintenance and rent (or its equivalent) of facilities used for instruction.

2. Auxiliary Services - Non-instructional services to students such as health service, student activities; plus the net operating costs of dormitories, food service, bookstores, etc.

3. Public Service - Adult education, advice to public agencies and private citizens, cultural performances and exhibitions; part of the cost of libraries, museums, etc.

4. Student Financial Aid - Scholarships, grants, fellowships, waivers and work-study plus the interest and management cost of loan programs.

5. Research - Both that supported by grants and contracts and by general revenues.

The above are direct costs to the institution of its end products. The remaining institutional costs are incurred for purposes which support the above activities, and are not ends in themselves. These costs must be allocated among the above five items (or among the other indirect cost categories themselves) in accordance with good judgment and common agreement based on as complete records as can be maintained. The allocation procedure should be regularly updated as information and conditions change. The charges will always be approximations, but the exercise of distributing them must be made if we are to conduct the operation of colleges and universities in accordance with established goals and economic principles. The indirect institutional costs are:

6. Administration and Support - Including clerical and maintenance personnel not directly attributable to an end function, plus the cost of the facilities and equipment used in this work.

7. Current Funds for Physical Plant - Includes debt service on bonds or capital loans for construction. Depending on bookkeeping methods employed, it may also include outright land acquisition, plant expansion and some capital replacement.*

8. Libraries, Museums, Etc. - A portion of which cost should be attributed to public service as an end product of the institution (preservation of knowledge, public reference, etc.), and the remainder allocated to instruction and research.

These are the bills that must be paid from one source or another, regardless of the bookkeeping procedures currently employed. The determination and allocation of these costs is a continuing task of the managers of higher education. Identification of how much is to be paid from what source, why, and in what manner is a central concern in shaping financing policy.

---

*This treatment of capital costs (as well as the breakdown of operating costs) is consistent with the reporting procedures used by U.S. Department of HEW, OE. See Mertins, Paul F., and Brandt, Norman J., FINANCIAL STATISTICS OF INSTITUTIONS OF HIGHER EDUCATION: CURRENT FUNDS REVENUES AND EXPENDITURES, PHYSICAL PLANT ASSETS, 1968-69, U.S. Dept. of Health, Education and Welfare, Office of Education, National Center for Educational Statistics, Washington, D.C., 1971, P.70.

User and Societal Costs

In addition to the actual cost of operating institutions of higher education, there are other costs which are incurred by users and society which must be considered in an economic analysis. In addition to providing much of the operating and capital costs through tax funds and philanthropy, society incurs indirect costs by paying for education, notably a reduction in gross national product; and a loss of tax revenue to its governments, first because students are not substantial earners, and second because government funds that go into education produce less tax revenue than they might if invested elsewhere. Indirect societal costs are real, and should be taken into account, but they are much less vital in making practical decisions about financing higher education than the indirect costs borne by students, the principal users. It is the size of net student costs that largely determines who is to be educated.

Students incur certain real costs about which there can be little uncertainty: tuitions and fees, books, living costs (whether living at home or away), transportation, etc. But there is considerable uncertainty and contradiction as to the proper role of foregone income, the earnings that a young person passes up when he decides to attend college instead of going to work. Foregoing this income is passing up real money. It amounts to the same thing as paying money out to invest in education, yet it does not always enter into discussions of total student costs.

With jobs limited, some even argue that if a student becomes a job-seeker he will simply be added to the rolls of the unemployed, or more likely, displace someone less talented from his job. They see post-secondary education as performing a "haven function" in keeping surplus labor off the job market. We are inclined to dismiss this point of view since no one is proposing shutting down colleges and universities and throwing potential students onto the labor market. To do so would radically alter the economy and move us away from the accepted goals for higher education.

Some have chosen to minimize the importance of foregone income since the presumed increase in future earnings attributable to higher education more than makes up for the loss. But this does not recognize the plight of lower income groups where families depend on the earnings or work contribution of their older children for survival. In their case, failure to make some allowance for foregone income -- to make it possible for them to invest in education -- shuts the door to additional study and repeats the cycle of low education-low income-high welfare.*

As a matter of equity as well as of sound economics, foregone income must be recognized as a real cost in any analysis of education financing, recognizing that there are problems in deciding on the dollar amount to be used. So long as there is high unemployment among youth, annual earnings of a recent high school graduate can range from zero, for those who cannot find work, to $6,000 per year or more. A figure of $4,000 for annual foregone income seems a reasonable amount for our purposes, and contrasts with student maintenance budgets of over $2,000 per year for students living away from home and student charges for education in California ranging from near zero at community colleges to around $3,600 per year at the costlier private institutions.

Benefits

Cost-benefit analysis is a numerical process. It has proven most effective in industry, and in planning public works and the like, where it is possible to specify the outputs with some certainty, and to express relevant inputs in the same terms: dollars. The process becomes much more uncertain in education. We can count graduates, and even attempt to measure the dollar value of their extra earnings resulting from their education. But there is no way to put a dollar value on the results of public service or research -- indeed, some of our most important material advances have grown out of research that was undertaken without any thought of practical value.

Attempts are being made to quantify in detail the outputs of higher education. We have serious reservations about their utility in cost-benefit analyses that dictate the operating decisions of colleges and universities. But used with caution, and with a recognition of their lack of precision, they can provide useful insights for planners and managers.

---

*A recent study for a U.S. Senate committee by Henry Levin shows that the 3 million American males in the 25-34 age bracket who did not complete high school will suffer an aggregate loss of lifetime income of $237 billion, and governments will experience a resultant loss of tax revenues of $71 billion. Similar results affect those who do not go far enough in post-secondary education to improve their chances of fruitful employment. (See Levin, Henry M., "The Costs to the Nation of Inadequate Education")

The Range of Views on Benefits

If we could come to some agreement about who benefits from higher education, and to what extent, we would have a rational basis for allocating charges among the beneficiaries if such a course were deemed desirable. But it is difficult to quantify these benefits; some societal benefits, such as reduction of welfare dependence and crime, could only be measured over long periods of time. Thus it is not surprising that serious and highly qualified analysts reach different conclusions, especially as to the relative benefits realized by individual users (primarily students) and society at large. The following paragraphs briefly summarize the positions of those who are currently concentrating on this topic.

Prominent among those who see students as the prime beneficiaries of higher education is University of Chicago economist Milton Friedman. He asserts that increased lifetime earnings of graduates is the major and quantifiable output. He acknowledges that there are societal benefits to education but asserts that they occur primarily at the pre-college level, and since they can't be measured anyway, they should not be part of the equation. He concludes that individual benefits increase as the level of education rises, and argues that students should pay the full cost of their studies out of present resources, or out of future income through the vehicle of student loans.

Theodore Schultz, another Chicago economist, generally concurs in Friedman's conclusions, and also urges that we look upon education as investment in human capital. He argues that such a viewpoint, coupled with better information for the student on costs and options, would lead to more rational choices and better utilization of the system.

On the other side of the fence are a group of analysts who view society as the chief benefactor. Howard Bowen, economist and now Chancellor of the Claremont Graduate Center, points out the "vast social benefits" of higher education, and urges heavy public subsidy since users would not be willing to pay their full share of the cost of quality education. He asserts that society is in fact paying a much smaller share of the cost of education than it realizes because foregone income is a real cost, and when it is taken into account students are paying three-fourths of the costs even at low-tuition public institutions. Bowen urges even greater societal contribution to higher education, largely by increasing student financial aid.

M. M. Chambers, educator at Illinois State University, looks upon the societal value of higher education as an extension of the Jeffersonian ideal of free public education. He sees education as benefiting every citizen, and as too important to be subject to "the vagaries of an unregulated private pricing system". He therefore urges that the burden be borne by citizens through equitable taxes.

Alice Rivlin, economist at the Brookings Institution, speaks to benefits at the federal level. She stresses general societal benefits which are realized in large measure by providing opportunities for low income students. She argues for a high federal subsidy which would have the effect of lowering costs to low income students.

Somewhat different conclusions were reached by W. Lee Hansen and Burton Weisbrod, University of Wisconsin economists, as a result of a limited cost-benefit analysis of higher education in California. Using data for 1965, they confined their study to factors that could be quantified -- costs, the increase in lifetime earnings which students can expect as a result of their education, future tax revenues resulting from this increase in earnings, and present tax payments by income level. They found that the state subsidy of higher education was three to five times greater than the anticipated increase in taxes that would be generated by graduates (eight to twelve times greater for non-graduates). The dollar amount in added taxes that an average graduate would pay the state during his working life was estimated to be $1,000; his proportionate share of the state subsidy to higher education was $4,400 - $6,200. Thus they compute that the state is paying at a rate of about $3,400 - $5,200 per student for the overall societal value of the system. Whether the state gets its money's worth from educating a student is left to the judgment of planners and lawmakers.

Perhaps more significant was the Hansen and Weisbrod analysis of benefits derived by students from various economic groups, taking into account only current taxes and expenses. They found that public subsidies tend to go to students from higher income backgrounds, since these wealthier students are much more likely to take advantage of the subsidy by going to college, and are more heavily represented in the more highly subsidized Univ. of Calif. and C.S.U.C. segments. They cite this finding as an argument against the low tuition structure, since it benefits the wealthy more than the broad range of the population it was intended to serve.

The method of analysis used by Hansen and Weisbrod has come under criticism, notably in a study by Joseph Pechman which takes issue with their evaluation of the taxpaying population. Nevertheless, their finding that students from high income families derive the greatest benefit from the subsidy of low tuition has considerable significance, and has been largely substantiated in a study in Florida by B. W. Windham, economist at the University of North Carolina. These studies suggest that the long cherished notion that low tuition, of itself, assures equal access is invalid. Instead, state tax contributions used simply to hold down tuition have the effect of subsidizing those who need it least, since such a scheme overlooks foregone income and other factors that exclude the poor. Higher tuition, in their view, would permit channeling some of the subsidy directly to low and middle income students in the form of increased aid.

The Utility of Cost/Benefit Analyses

Although a number of others have written on the subject of cost and related benefits, their conclusions are simply variants of the fundamental positions summarized above. So where does all this leave us with regard to the value of such analyses in determining who should pay for higher education? The discipline forced by the procedure has the virtue of highlighting cost centers and providing useful data for planning and determining allocations of funds. It tends to sharpen thinking about the distribution of the burden. But it does not provide us with a simple and reliable formula for apportioning the load.

We can summarize the major points of agreement, to which we subscribe:

1. There clearly are societal benefits to some of the activities carried on in colleges and universities and directed toward public purposes: research, service, preservation of knowledge. All would agree as well that there is societal benefit in the instructional function, and in the production of a more effective and self-sufficient citizenry. But there is no agreement as to whether, or how, any of these can be quantified.

2. There are individual benefits which can be quantified (increased earning power, etc.), as well as others that probably cannot (job and social mobility, acceptability in public life, the consummatory pleasure of college life). Of those benefits that can be quantified, it is apparent that these vary

   a. by level, with increased earning power at the completion of each successive degree level, on the average; and

b. by program (physicians tend to earn more than scholars in the humanities).

3. Net cost to students is an important factor in determining who attends college. Most agree that foregone income is a major and real cost, and is probably a more important factor than the level of student charges in determining who attends.

3. PRICING AND STUDENT AID

A review of recent analyses, and current and proposed practices, reveals that there are three basic models for funding public post-secondary education, each with variants and options: 1) low or no student charges; 2) full-cost pricing; and 3) a mid position between these two which we now have in most systems, and which Howard Bowen refers to as a "conglomerate model", presumably since it draws together several financing theories and devices. Bowen identifies the underlying issue in financing as "whether the conglomerate system should veer toward the full-cost model or toward the free public education model".* Questions about channeling funds directly to institutions or through students, and the mix of various forms of student aid, further complicate the issue.

The answers are influenced by a set of equally complex and often conflicting factors: the goals for the system and their relative importance, assumptions about public and private benefits, and the ability and willingness of the state to support the system. The following analysis of the basic financing alternatives and student aid options attempts to highlight the interaction of these variables.

Low or No Student Charges - Free Public Education Model

Exponents of the position that society is the prime beneficiary of post-secondary education would favor a low student charge plan in which the state bears most of the burden. A relatively low student charge is, of course, the pattern for home-state students in most public colleges and universities. It is a legacy of an earlier time when free public education was expected to provide access for all who wanted it. Only latterly have we come to recognize that costs other than student charges present an even higher barrier to access for many people.

The extreme case is a zero student charge, and many would argue that education is genuinely free, and all economic barriers to it overcome, only when students are subsidized to cover the other costs of going to college, such as living expenses, books, etc., and even including foregone income. Such a pattern is not unknown: many institutions abroad, and our own service academies, provide stipends in addition to covering all costs. Yet as a practical matter, zero student charges are a thing of the past in most states. The only major post-secondary systems that make no general charge for resident students are the California community college network and the City University of New York. State budgets have come to rely on student charges to help finance public institutions, and in view of the growing squeeze on the states, any reduction seems unlikely.

---

*Bowen, Howard R., "Finance and the Aims of American Higher Education" in Orwig, M.D. (Ed.) Financing Higher Education - Alternatives for the Federal Government, American College Testing Service 1971, P. 165.

The level of charges for public four-year colleges and universities now ranges from about 10 percent to 30 percent of the cost of instruction (generally defined as "current operating costs for instruction" or the equivalent) in most states. Community colleges tend to be lower on the average, but to range more widely, from no charge in California to a high of around 50 percent in some Midwestern states.

1972-73 student charges in California for undergraduates average $638 for the University of California, $117 to $168 for the State University and Colleges, and essentially zero for community colleges. On the average, these amounts represent a small portion of annual student budgets -- the out-of-pocket cost of attending college -- which now range up to $2,700* plus student charges for campus residents and $2,200* plus student charges for commuting students. Student charges represent a much smaller portion of all costs, of course, if foregone income is included. The weighted average of student charges in California is about $160, placing the state among the few now adhering fairly closely to the zero tuition model.

The principal purpose of no or low student charges is to maximize enrollment from all economic classes, thus serving the state's needs for manpower and providing lower income groups with a chance to rise in the socio-economic system. But recent studies suggest that it is the middle and upper income groups that take the greatest advantage of low cost systems. Thus the state's subsidy, which is equally available to all students, is most likely to be used by those who need it least. Furthermore, student financial aid programs tend to be weakest at low-cost institutions, in part because the need for aid is not perceived by planners and budget makers, further inhibiting low income participation.

Low student charges continue to have popular appeal, and the public and student outcry at each increase is particularly painful. But unless low charges are coupled with substantial student assistance programs, the plan fails to achieve the goal of effecting open access. The low charge model puts private institutions at a competitive disadvantage, contributing to their fiscal plight. By forcing reliance on a single major source of funding, it reduces the independence of public institutions and pushes them into the uncertainties of the political arena. Further, since low student charges are usually reserved for a state's residents, while those from other states pay substantially more, it encourages parochialism by reducing the number of students who cross state lines for their education. Although it has drawbacks, the low student charge model can be an effective device for broadening enrollment _if_, and _only if_, it is accompanied by a student aid program that helps low income students meet the other costs of education.

---

*According to State Scholarship and Loan Commission data.

Full Cost Pricing

The opposite extreme, which appeals to those who view students as the major beneficiaries of post-secondary education, would ask users to pay for the full cost of the benefits they receive. Here we assume that all students would be charged the equivalent of the average cost of instruction, ignoring differences by level or program. To reflect true full cost, of course, the current cost of capital facilities must be included. Based on a recent analysis of 1970-71 costs in California made by the Coordinating Council for Higher Education*, this would amount to undergraduate charges of $2,529 at the University of California, $2,059 at CSUC, and $890 at Community Colleges, plus an amount for capital costs in each case.

In its pure form -- that is, without a massive financial aid program -- full cost pricing would have a drastic effect on access and enrollments, with many low and middle income students forced out of the system. Serious proponents of full-cost pricing thus couple it with substantial student aid, awarded on the basis of need, with need to be determined by one of the existing mechanisms that objectively assess the resources available to a student (and his family), and weigh them against his total educational budget.** It is imperative, of course,

---

*_The Costs of Instruction in California Public Higher Education_, _Coordinating Council for Higher Education_, July, 1972 (Draft Copy)

**The California State Scholarship and Loan Commission now employs an effective need analysis and fund disbursement mechanism that meets this requirement. It must be pointed out, however, that with 18 now established as the age of majority, there may be considerable difficulty in continued reliance on parental contributions to education costs. Need may become determined solely by the student's own resources. A similar problem may develop in connection with differential charges for out-of-state students. The right to vote in a state, which can be established in a short period of time, may be sufficient to that student aid be awarded in the full amount required if accessibility is not to be hampered.

Under such an arrangement, the state's entire contribution to the cost of instruction would be in the form of student aid, thus simplifying and clarifying the process of allocating state funds. Establishing the appropriate charges and aid budgets would be a matter of negotiation between the state and the institution, but such a process should be more conducive to institutional autonomy than detailed budget scrutiny. The reduction in state influence would be offset by increased institutional responsiveness to students, who would either be paying the bills or deciding where their aid funds are to be spent.

Among other advantages claimed for full-cost pricing is the increased incentive for serious involvement in education by students who are paying the bill, even if part of the payment is coming via aid funds. Another is that private institutions would be strengthened, since they would be more price-competitive with state institutions. In addition, they would be greatly benefited, of course, if state student aid funds could be used at private as well as at public institutions.

On the negative side, the increase in student charges to those who would not qualify for aid under the need formula would produce considerable pain and outcry. Very wealthy students would suffer little, but many from middle income families would feel real hardship. Thus it seems important to provide expanded loan and work opportunities for those above the need level to help cushion the shock.

The full-cost pricing model has appeal in fulfilling goals of access and equity, but only if accompanied by a fully funded, need-based, aid program. The perils of full-cost pricing coupled with a lagging or half-hearted aid program hardly need reiteration. Payments by students who are above the need level would generate new income for higher education, part of which could go toward funding increased aid, and part toward institutional program improvement.

Another factor that may push states toward full-cost pricing is the student aid component of the 1972 federal higher education legislation. When (and if) fully funded, this legislation will provide basic grants of up to $1,400 per student

---

establish residency and the right to resident charges. These matters are now before the courts, and could seriously upset existing financing patterns.

based on need and cost, plus some additional funds for disadvantaged students. Only with student charges higher than those presently levied will states enjoy the full potential benefit of these federal funds. We deal more extensively with this topic in Section 7.

The Conglomerate Model

As noted earlier, the system in use in most states is a mid position between the previously described models, with some of the characteristics -- and the advantages and disadvantages -- of each. The cost of instruction is covered in part by state appropriations and in part by student charges, to some extent confusing the issue of who is paying for what.

Since most state public systems once charged students little or nothing, one might look upon the conglomerate model as transitional. Whether state systems will continue to move toward full-cost pricing by continuing to raise student charges remains to be seen. Some could shift back toward the no or low charge pattern, but such retrogression seems unlikely. For the present, the conglomerate model is the prevalent form, and it may continue to exist well into the future as the most logical way to fulfill state goals in a balanced and responsive manner.

The conglomerate model nicely straddles the benefits issue: if post-secondary education benefits both society and individuals, it is appropriate that both beneficiaries pay (which is true as well, of course, of a full-cost system coupled with government-funded student aid).

Perhaps the strongest argument for the conglomerate model is that it is in widespread use, and that it works, albeit imperfectly. It also lends itself to change as needs vary or as shortcomings appear: if access is found to be poor, aid and remedial programs can be shored up at the expense of increased student charges or state appropriations; if the state's resources for education fail to keep pace with rising costs, more of the burden can be passed to users, and more of the student aid shifted to loans.

Variable Pricing

A variant of full-cost pricing, which is proportionately applicable to the student charges under the conglomerate model as well, is the plan under which user costs vary across programs or across educational levels. Tendencies to move toward variable pricing are apparent in many states and institutions where charges for some professional programs, such as medicine and business, are higher than those for other fields;

and where graduate charges are higher than those for undergraduates.

Varying charges by program can be justified for three different reasons: because costs differ and students should be paying proportionately; because lifetime earning prospects in some fields are greater than in others, and those who will benefit more should pay more; and in order to channel students into areas of manpower need.

The third of these justifications we set aside as either ill-advised or ahead of its time. Altering fee levels so as to induce students to enter critical fields would require far more skill in manpower planning, and more vision, than has been exhibited in the past. As evidence, witness the transition from acute shortage to embarrassing surplus in teachers and Ph.D.'s brought about by alarums and financial inducements in the 50's and 60's. An additional deterrent is our traditional popular resentment toward governmental manipulation of private choices.

Pricing all programs on the basis of cost would interfere with open options and access, which are among the presumed goals of education. Only wealthier students would tend to enter costly programs, and those less able to pay would gravitate toward cheaper programs for which they may be unsuited, to the detriment of both public and individual benefits. In addition, at undergraduate levels, where inter-program transfer is frequent, different student charges for any sizeable number of programs would create an administrative nightmare. It would appear wiser to accept the minor inequities inherent in using average costs to determine undergraduate charges.

In graduate-professional programs, where student commitment is more clearly established, and where future earnings are more predictable, there appears to be more justification for varying charges in accordance with anticipated income, and costs as well. But if we are to charge future high earners more for their education, they should have access to grants or long-term loans to cover higher costs. Otherwise, low income students will be forced out of the most remunerative professions.

Variable pricing by level is a quite separate option that needs examination and consideration. Student charges would be related to costs by level. These costs for 1970-71 in California, again ignoring current cost of capital facilities, were as follows, according to the previously cited analysis made by the California Coordinating Council for Higher Education:

	University of California	State University and Colleges	Community Colleges
Lower Division	$2,226	$1,804	$890
Upper Division	$2,756	$2,237	-
Graduate	$5,099-6,417	$5,080	-

These figures represent the approximate amounts that would be charged to students if variable pricing by level were to be adopted. Moving to such a plan could have important effects on equity, access, and efficiency.

There have been many attempts to estimate the additional earnings of college graduates attributable to their education. The estimates vary rather widely and there is no real consensus one can rely on in estimating private return. One element does, however, seem to be fairly clear: there is no evidence that a little bit of college benefits the consumer financially. It is instead the possession of a degree (A.A., B.A., Ph.D.,etc.) that opens employment opportunities to the individual. The certifying effect of graduation seems to be paramount in broadening opportunities for higher private returns.

Persistence and completion ratios for students entering post-secondary education follow a classic pattern: most students who are going to drop out do so in the first year of study -- many even in their first term. Once a student has successfully completed his initial years, the odds of his persisting to his degree objective are much higher.

The risk to students of not completing a program is therefore concentrated in the early period of study. Concomitantly, the probability of no private return for the educational investment is heaviest at the entry level. Thus there appear to be sound reasons for keeping student charges low during earlier years, and for raising them in later years as the likelihood of personal benefit increases.

The goal of universal access is also well served by variable pricing by level, since it reduces the entry cost into the system. It can insure that low income, disadvantaged, and high academic risk students do not perceive the price as a prohibitive barrier.

Variable pricing by level can also have significant effects on efficiency by forcing closer attention on costs as they are reported to vary by level. Taking note of the fact that one of the aims of education is to equip the student to learn on his own, one educator told us in an interview that, "It is a sad commentary on our system that it costs more to educate students the longer we keep them in higher education." Of course there are good reasons for costs to go up as students progress: smaller specialized classes, more individual attention, more expensive equipment. But efficiency would be well served by forcing attention upon these differentials so as to assure that they do not get frozen by complacency or faculty preference. Requiring students to face increasing charges as they progress through the system could well have this effect.

Channeling Funds

Deciding whether state funds should be channeled directly to institutions, or through students via aid programs, is effectively much the same as selecting between a no or low cost and a full-cost pricing model. The proportion which goes through each channel determines whether the conglomerate model will be shifted toward low or high student charges.

The arguments on channeling closely parallel those for low and high student charges. In brief, proponents of channeling funds through students on a need basis see this course as improving equality of opportunity by drawing more low income students into all kinds of institutions. They argue that the subsidy represented by government funds would go to those who need it, whereas institutional channeling distributes the subsidy equally across the whole student population, and the present student population is heavily skewed toward middle and upper income brackets. They also note that student-channeled funds would lead to higher student charges in public institutions, thus increasing the motivation of those enrolled in them, and equalizing the competition with private institutions, to the latter's benefit.

Proponents of institutionally channeled subsidies argue that quality and quantity of higher education are benefitted when institutions can determine how the funds will be used. They see this channel as more directly and quickly responsive to changing needs, since institutions could immediately switch priorities and emphases, rather than being required to wait for students to switch their enrollment patterns and dollars. They also point out that institutional channeling will rescue many a college and university now on the brink of financial collapse. Their adversaries point out, of course, that such institutions may not be worth saving if they cannot attract students.

The battle over channeling funds raged in the halls of Congress during the debate over the 1972 higher education legislation. The decision came down on the side of student-channeled funds, which received the bulk of the authorization, with the inevitable compromise providing smaller amounts for institutions. (See Appendix 1)

Student Aid

The extent and nature of student financial aid programs is an integral part, perhaps the most vital part, of financial planning directed toward achieving the state's goals for post-secondary education. It is not an add-on, to be considered after basic policy is set.

If the State is to move toward lower student charges, or is to retain the present low charge pattern, then aid programs should be considered primarily in the light of equality of access. The State must decide how much more in aid funds it is willing to spend to draw a representative number of low income students into the system.

If the shift is to be toward full-cost pricing, then it is all the more essential that aid be treated as central in financing policy: true full-cost pricing means that the only state subsidy for instruction is through student aid; all other instructional costs being met by student charges.

The most damaging thing that can occur is a gradual drift toward full-cost pricing without a comprehensive plan and a goal. In state after state, we have seen the following scenario unfold: the budget is tight, and in order to raise funds for post-secondary education, student charges are raised. Then separate consideration is given to student aid, and since things are tight the appropriation is trimmed. Aid may go up, but not enough to prevent forcing a few more low income students out of the system. It is this kind of experience that makes students and citizens wary of increasing student charges toward full-cost pricing. The issues surrounding financing, and the level of student charges, will never be rationally resolved if such short-sighted action continues.

Later sections deal with financing and aid plans in use or under consideration and present some alternatives for California. It seems important, therefore, to describe and define the forms of student aid that are available, and that can be combined into a coherent program. Basically, there are four forms: tax credits, grants and scholarships, work-study, and loans. Each is discussed in turn.

Tax Credits - This is a plan under which families of college students would be permitted to deduct education costs from their taxes. Proposed primarily at the federal level, and in effect in few states, such a plan has yet to prove itself important at the state level.

Grants and Scholarships - May be awarded on the basis of need (usually called grants), scholastic performance (usually called scholarships), or a combination of the two. Achievement was once the dominant criterion, but the trend in recent years has been strongly toward need-based grants intended to extend access to low income students.

Some state grants are useable only at public universities, with the amount based on a computation of assistance required by the student (and his family) to cover costs at a state institution. Others provide an amount that offsets costs at public or private institutions, usually up to a given limit. Such a system has the effect of providing "tuition equalization" grants to qualifying recipients.

Portable Grants

A proposal currently receiving considerable attention is the portable grant. The concept was introduced some 20 years ago by Milton Friedman, who proposed a "voucher plan" for pre-college education. Under the plan, students -- actually their parents -- would be provided by some level of government with a voucher cashable at any approved institution, in exchange for an education. The institution could be public or private; non-profit or for-profit. The concept is scheduled for testing in a few locations, under federal sponsorship.

The whole system of financing pre-college and post-secondary education is so dissimilar that it took many years for the voucher concept to be considered at the higher level. Now the terms "portable grant" and "voucher" are both in use to describe the program at the post-secondary level, and serious study of its effectiveness is being made in at least one state, Oregon. A foundation-funded study at the University of Oregon is examining financing alternatives in Oregon with particular emphasis on portable grants and full-cost pricing. Computer simulations are being developed to test the effects of various alternatives.

Most portable grant proposals call for need-based awards which students may apply at any institution, public or private, usually within the boundaries of the awarding state. By making financial aid awards directly to the students, and not through institutions as is the common practice at present, this model puts considerable power in the hands of students. Institutions would survive or fail depending upon whether enough students enrolled to keep them going. Whether such an arrangement would result in "relevance" to ephemeral student wishes, or responsiveness to societal needs and better education, is open to question and much in debate.

One of the most useful treatments of this topic is a paper by Henry Levin, prepared for the Committee for Economic Development and entitled, Aspects of a Voucher Plan for Higher Education. Levin points out that, in economists' terms, vouchers would channel subsidies to the demand side (consumers, students) rather than to the supply side (producers, institutions), and would be likely to have significant influence on the organization and functioning of post-secondary education. He notes also that there is a big difference between the voucher concept and a voucher plan. The details of an operational plan can be devised to enhance equity among societal groups (by being need based or even compensatory), or to conserve present stratification (by offering subsidies in equal amounts to all segments). It could encourage efficiency (by making vouchers usable at either traditional or entrepreneurial institutions, with tightly specified outcome criteria) or preserve existing institutional patterns (by restricting applicability of vouchers). Determination of who is eligible for vouchers would substantially determine who gets into the system. In short, one can devise a portable grant or voucher system to achieve almost any end one might wish to achieve. Taking the detached economist's view of vouchers as a device for investing in human resources, Levin points out that an argument can be made for provision of a sum to all young people that could be applied to education, or invested in such other ways as starting a new business. Under any variant, an effective voucher plan would require informing beneficiaries of the opportunities that are open to them.

Work-Study - The federal government has provided the principal support, for over ten years, to a program which subsidizes wages paid for a limited amount of student employment on campus, in social service agencies, etc. A usual condition of such employment is that it supplement existing services and not displace present employees.

Only Colorado currently operates a work-study plan financed at the state level. Officials there report that the program functions well, subject only to the usual problems of unpredictability of student employees. Such a plan has been considered in the California Legislature, and merits further exploration if federal programs do not expand to meet potential need. Student employees could perform many on-campus tasks that would free faculty members to concentrate on their central responsibilities (see also Chapter 6 on productivity).

Loans - Student grants, work-study programs, and tax credits all require full current funding from the state budget (or loss of income in the case of tax credits). Loan programs, on the other hand, require proportionately little current state expenditure. State subsidized programs need only cover the cost of administration, and in some instances, interest differentials or losses during forgiveness periods, defaults, and start-up costs. Federal programs permit shifting much of the state's burden and risk to the national budget. Thus loans are an attractive component of a student aid program from the standpoint of the state.

If student charges are to be increased and offset for low income students by need-based grants, many middle income students who do not qualify for aid under need formulas will suffer hardship. Provision of easily repayable loans is essential, of course, if the general public is to accept higher student charges. Even if user charges do not rise markedly, a loan program that will assist all students in financing their post-secondary education would improve equality of access to the benefit of both state and students.

Various loan programs are, of course, currently available. In addition, there is a bewildering array of proposed plans and models in use in other states. They represent a variety of borrowing options, repayment schemes, and financing possibilities. Thus we devote the next section of this report to a brief review of selected experience elsewhere, and descriptions of some alternatives that may be effective in California.

4. STUDENT LOANS

Loans provide a way to avoid making post-secondary education available only to the wealthy, or of requiring massive student aid and institutional support from tax dollars. Low-cost, long-term loans to be repaid after the student completes his education shift the cost of higher education from the student's family, who presently must pay it during a four or five year period, to the student himself, who may pay it over a considerably longer period when the investment in his education is yielding a return out of which the cost may be met. There is a good deal of mythology, but very little hard evidence, concerning the willingness of students in various income categories to go into debt for their education. On the one hand, low income persons are wary of loans. However, these groups do rely heavily on credit in their purchases, and there is little evidence that this attitude does not carry over to purchase of education. Middle income, upwardly mobile populations are supposedly casual about incurring loan obligations, and there is some evidence of students incurring so much debt for their educations that their only recourse is to declare bankruptcy and start over, debt-free. But these cases are few, and default rates on education loans remain very low. The weight of evidence suggests that many students at all income levels are willing to assume debt to pay for college, and that where the obligation to repay is made clear, and collection efforts are conscientious, default is minimal. When combined with some "income-contingent" features, which provide a safety valve to protect those who enter public service professions, or for whom the post-secondary educational experience is under- or non-productive (particularly for those who enter their post-secondary institution as educationally deprived students), the loan option may receive even greater acceptance by the student.

From the point of view of government, a fiscally sound student loan program, properly designed, financed and administered, can be the least expensive means of assuring that no student within its jurisdiction who desires a post-secondary education will be denied the opportunity solely because of inadequate financial means. The cost to the state of paying the relatively limited number of defaults on such loans is substantially below the cost of granting scholarships to an equal number of financially disadvantaged students.

The Federal Guaranteed Student Loan Program

The Higher Education Act of 1965 provides for the implementation of the Federal Guaranteed Student Loan Program. Generally, the federal act authorizes the United States Commissioner of Education to: 1) encourage state and private non-profit agencies to establish loan insurance programs for students attending eligible post-secondary educational institutions; 2) provide a federal loan insurance program for students or lenders who do not have reasonable access to a state or private non-profit program; 3) pay a portion of the interest to the lender on behalf of qualified student borrowers; 4) reinsure a portion of each loan guaranteed under a program of a state or private non-profit agency; and 5) provide for the payment of a "special allowance" to lenders.

Methods of Utilizing the Federal Program

1. State Agencies - Twenty-five states and the District of Columbia currently operate agencies which guarantee loans made generally by banking institutions, credit unions and pension funds to qualified students attending eligible institutions of higher education. Twenty-one of these agencies operate their programs directly. California was among the states operating under this plan in 1966 and 1967, and then withdrew and has since relied on direct federal loan insurance (see 4 below).

2. United States Aid Funds, Inc. - Five states have contracted with the United States Aid Funds, Inc., a private non-profit agency, to administer their programs. For example, South Carolina, by Act of the State Legislature in 1966, entered into such a contract. Guarantee reserves, initially provided by the federal government but since 1969 provided by state appropriations, have been deposited with the United States Aid Funds, Inc. which, in turn, guarantees participating lenders against defaults on student loans.

3. Direct State Loans - Texas and Wisconsin have programs of direct state loans to students. The federal act authorizes the Commissioner to pay interest benefits on behalf of eligible students and to reinsure such loans against default.

4. Direct Federal Insurance - In each of the remaining states, including the State of California, the Commissioner has established, pursuant to the authority granted him in the federal act, a program of direct federal insurance of student loans made by lending institutions to eligible students. Under these programs, the Commissioner enters into agreements directly with lending institutions to insure 100% repayment of the loans.

Provisions of the Federal Program

Federal advances are provided to help establish or strengthen the reserve funds of approved state student loan programs. These "seed money" advances are non-interest bearing loans which must be repaid as the Commissioner deems appropriate in light of the maturity and solvency of the reserve fund for which the advance was made. New York State, for example, received $1.5 million which it has not been required to repay.

Most agencies have established reserve funds to guarantee loans made by participating lenders. The majority, including until recently New York, use a 10% reserve, but reserve ratios range from 3% to 20%.

State and private non-profit agencies contract with the Commissioner of Education under an arrangement in which 80% of the loans guaranteed by the agency are reinsured by the federal government. Since federal reinsurance reduces the agency's potential liability as a result of a default to only one-fifth of the loan's outstanding balance, the agency's reserve fund will support the guarantee of student loans with aggregate principle balances five times greater than if there were no reinsurance and the agency were liable for the entire amount of the default. Reinsurance agreements are currently effective in 23 states and the District of Columbia.

Currently, 3,895 colleges and universities, in the United States and overseas, are eligible under the provisions of the federal act. In addition, there are 3,451 eligible vocational, technical, business, and trade schools, including proprietary as well as public and non-profit private institutions.

Under the regulations of the guarantee agencies, maximum amounts and terms may vary, but under all programs, the maximum may not exceed $2,500 per academic year.* The total aggregate loan outstanding may not exceed $7,500 over the term of a student's four year education, or if the borrower attends graduate school, $10,000. The maximum rate of interest payable on the loan is set from time to time by the Commissioner. At present, it is 7%.

---

*The $2,500 annual maximum permitted by the 1972 amendments to the Federal Act has also been suspended until March 1, 1973. In the interim, the former annual maximum of $1,500 is applicable.

Repayment of the loan is over a period of not less than 5 nor more than 10 years beginning not earlier than 9 nor more than 12 months following the date on which a student ceases to be enrolled on at least a half-time basis at an eligible institution. However, as the federal act requires the student to repay at a rate not less than $360 a year, the actual repayment terms will depend on the student's total indebtedness. Principle payments need not be made by the borrower while he is a member of the Armed Forces, a volunteer in the Peace Corps or VISTA or for any period during which he is pursuing a full-time course of study at an eligible school. If a student fails to make an installment payment when due, or to comply with other terms of the note, and if this condition is not corrected within 120 days, the loan may be declared in default.

While the student is in school, during the maximum 12 month grace period, and during periods of authorized deferment, the federal government pays the total interest up to the maximum 7 percent for those students whose adjusted family income is less than $15,000 per year.* During the loan repayment period, the student assumes the total interest charges. Students who do not qualify for federal interest benefits may borrow, but they must pay all of the interest on the loan.

When economic conditions threaten to impede the program and the return to lenders is found to be less than equitable, the Secretary of Health, Education and Welfare may authorize a Special Allowance to be determined and paid to lenders on a quarterly basis. The rate may not exceed 3 percent per annum and is calculated on the average quarterly unpaid principle balance of all loans disbursed after August 1, 1969. The Special Allowance is presently being paid to lenders.

The National Experience Under the Federal Program

As of the end of the third quarter of 1971, nearly 3.5 million student loans had been made under the federal program, amounting to $3.15 billion. 81.2% of these loans were made by commercial banks, 8.4% by savings banks and 4.1% by states through direct lending programs. The majority of the borrowers came from middle income families; the adjusted family income of 50% of the borrowers was between $6,000 and $15,000;

---

*For the purposes of applying the "adjusted income test", the income of a student's family is attributed to the student, for these computations, only if he resides with his family, he receives more than $600 annually from them, or he is claimed by them as an exemption for federal income tax purposes.

4% had adjusted family incomes over $15,000. 62% of the borrowers were male; 75.3% were single; and 87.1% were white. The cumulative default ratio for the nation as a whole is 4%.

The Experience of a State Loan Guarantee Agency: New York State

The New York Higher Education Assistance Corporation operates the largest individual student loan guarantee program in the nation. Its program, which commenced in June 1958, preceded by 7 years the federal act. By June, 1972, NYHEAC estimates that it will have guaranteed $1 billion in student loans. At the end of fiscal year 1971, 390,000 students held approximately 800,000 loans, totaling $680 million guaranteed by NYHEAC. Approximately 200,000 borrowers holding loans are attending school; the balance of the borrowers are in the process of repaying, in military service or are permitted to defer repayment for other reasons. Seventy-five percent of the borrowers attend in-state schools; 25% attend school out of the state. 35.8% attend public universities within the state.

The cumulative default ratio based on students who are subject to repayment or have repaid is 4.6%. However, the loss ratio is projected to be only 2.8%. The New York experience indicates that there are two areas of higher than normal default risk: (1) certain vocational schools such as cosmetology and trade schools, and (2) entering students who have been educationally deprived and who do not survive their first year.

The appropriation to NYHEAC for fiscal 1972-73 to restore its reserve fund in light of projected defaults and to cover its administrative expenses was $2.46 million. This appropriation should be substantially reduced in the future since NYHEAC's legislation was amended during the past legislative session to authorize it to charge borrowers the one-half percent insurance premium charge permitted under the federal act.

The Experience of a State Direct Loan Agency: Texas

The State of Texas is the second largest lender under the federal program; the Bank of America is first. Its program, which was authorized by an amendment to the Texas Constitution, commenced in 1966 and is financed by the sale of State of Texas College Student Loan Bonds (General Obligation Bonds). To date, $115.5 million of bonds have been issued. As of March 31, 1972, a total of 245,523 loans have been made to 78,990 students, totaling $91,441,640, of which $10,160,511 has been repaid.

The net effective interest rate on the Texas bond issues range from a low of 3.77% in 1967 to a high of 6.25% in 1970, leaving a "spread" between the cost of the funds to the State and the yield it realizes on the student loans of from .75% to 3.33%. In addition, for fiscal 1971-72, its earnings on its investments totaled $4.75 million.

3.08% of the Texas student loan portfolio has been turned over to the State Attorney General for collection. Less than 1/2 of 1% of that portfolio is actually in litigation.

The Modified Deferred Tuition Concept: The New York Plan

Governor Rockefeller recently signed legislation which is designed to create a mechanism, administered by a state agency, to permit students attending public and private post-secondary educational institutions within the State of New York to defer payment of a portion of their educational expenses until after graduation. That mechanism seeks to achieve a variety of goals:

1. To permit all colleges and universities within the state -- both public and private -- to participate.

This effectively rules out plans modeled on those proposed by Yale and Duke Universities, because only institutions with substantial endowments can implement that type of plan. In effect, under the Yale and Duke plans, the educational institution borrows the funds from banking institutions, becomes the primary obligor and reloans the moneys to the students. Thus, the effectiveness of such plans depends upon the ability of the institution to borrow large amounts of money from the private banking system and to accept the risk of loss from defaults on repayments by the students.

2. To permit all students attending a participating college or university to take advantage of the deferred tuition plan, regardless of the state of residence. It was concluded that from the standpoint of the educational institution -- and particularly of the private college or university with a substantial out-of-state enrollment -- the program would be of little assistance if the deferred tuition program were available only to students whose residence was New York State.

3. Not to rely on any substantial subsidy from the state or its localities. It is recognized that no such moneys for this purpose are likely to be available in the state budget for the foreseeable future. Consequently, the program was

structured for the mechanism to be self-sustaining and the risk of loss from defaults to fall primarily elsewhere than on the state, its agencies, or subdivisions.

4. To create a program which, it can be clearly demonstrated, is self-sustaining. The program is designed to be financed by the sale of tax-exempt bonds in the private capital market. Therefore, investors must be convinced that the program provides a fiscally sound basis for the repayment of their investment. Concepts such as the Ford Foundation's Pay-As-You-Earn (PAYE) "income contingent" repayment plan were investigated. Under these plans, a student borrows a fixed amount and agrees to repay a specified percentage (per $1,000 borrowed) of his yearly income until his loan is repaid in full, with interest, or until he reaches the maximum specified repayment period, whichever comes first. Borrowers who reach the maximum repayment period and still have outstanding balances are forgiven these amounts. The plans are designed so that anticipated early pay-offs by borrowers who earn substantial incomes will make up losses sustained through the forgiveness of the outstanding balances owed by financially unsuccessful borrowers.

At present, there is no satisfactory evidence that the gains achieved from early pay-offs will in fact equal the losses resulting from the loan forgivenesses. Accordingly, it was concluded that, for the moment at least, private investors could not be convinced that such plans would be self-sustaining, and utilization of such plans, or variations of them, were rejected.

The New York Plan From the Educational Institution's Viewpoint

The program embodied in the recently enacted New York legislation will permit any student attending an in-state institution of higher education to sign a note payable to his school for his tuition, fees, room and board ("deferred educational costs") in an amount not in excess of that eligible for re-insurance under Federal Law; at present, that amount is $2,500 per year, $7,500 over the term of a student's four year education and $10,000 if the student attends graduate school. The legislation is structured to take advantage of proposed increases in the federal limits.

The participating institution will not actually disburse any funds to its students; it will accept the student's note in payment of that portion of his financial obligation to the institution equal to the deferred educational costs. The participating institution will then contract to sell the student notes to an agency of the state which will issue tax-exempt bonds on the private capital market to raise the necessary funds for their purchase. Since the State of New York Mortgage Agency ("SNYMA") is presently engaged in purchasing home mortgage loans from banking institutions -- which is directly analogous to the deferred education cost program -- the Legislature selected SNYMA to act as the agency to purchase the student notes.

As a result of the sale of the notes to SNYMA, the educational institution will receive an amount equal to the aggregate face value of all the notes sold. SNYMA will be the owner of a portfolio of student notes as security for, and a source of payment of, its bonds.

Under existing state and federal programs, each student note will qualify for a 100 percent guarantee by NYHEAC. In turn, the note will qualify for 80 percent reinsurance by the federal government. In effect, then, the program shifts 80 percent of the risk of any net loss from defaults to the federal government.

The proposed program is fully voluntary insofar as educational institutions are concerned. Each must make its own decision whether or not to participate. Accordingly, there is the possibility that some students who reside in New York State might be unable to participate in the program. Such a result might occur because a student attends a non-participating, in-state school or an out-of-state school, and cannot get a loan from a bank under the program as presently administered by NYHEAC.

To correct this possible inequity, the legislation authorizes SNYMA to (a) buy student loans from banks in order to encourage them to participate in the NYHEAC program, and (b) as a last resort, to make loans directly to students who otherwise would be unable to get the funds. In either case, the loan will qualify for a 100 percent guarantee by NYHEAC and 80 percent reinsurance by the federal government.

The New York Plan From the Student's Viewpoint

The student's deferred educational costs will bear interest at a rate no higher than 7 percent per annum. If the student's adjusted family income does not exceed $15,000 annually, the student will pay no principle and no interest while he is in school. The interest payments during that period are payable by the federal government under the federal program.

If, on the other hand, the adjusted family income of the student exceeds $15,000, the student will only pay interest while he is in school. The legislation is drafted so that if Congress raises the $15,000 income-test for eligibility for interest subsidies, the state program can be raised accordingly.

Repayment of the student's deferred educational costs will commence only after his education has been completed for 9 months. The deferred educational costs are repayable over a 10-year period. Again, the legislation is drafted to permit the state to take advantage of any liberalization by Congress in the repayment terms of its guaranteed student loan program, e.g., an extension of the repayment period.

Income Contingent Aspects of the New York Program

The legislation is flexible enough to encompass certain aspects of the "income contingent" proposals made by the Ford Foundation. First, although the program clearly contemplates a fixed schedule of repayments by the student borrower, the legislation permits SNYMA to program the periodic payments to start at a relatively low dollar amount and to gradually increase in amount in step with the predicted income of the borrower.

Second, SNYMA is authorized, within its available funds, to suspend -- indefinitely if necessary or advisable -- repayment of loans. For example, SNYMA is permitted to fix income minimums so that until a borrower reaches that income level, he is not required to commence repayment of the loan. This feature is designed to attract students from low-income families or students who plan public service careers and who have serious concern whether their incomes will reach a level sufficient to repay the indebtedness.

The legislation also authorizes SNYMA, within its available funds, to reduce or suspend scheduled payments if such payments would exceed a certain percentage of the borrower's income.

These income contingent aspects of the proposal will be funded either from state or federal grants, private gifts or, most likely, from the difference between the rate at which the Agency can borrow its money in the private tax-exempt market and the 7 percent rate it receives on its loans. In the opinion of financial advisors consulted by the legislation's draftsman, SNYMA can reasonably expect an average spread of at least one percent between the rate it pays for its money and the rate of return it realizes from the student loans. In other words, for each $100 million in deferred educational costs outstanding, SNYMA can expect to make at least one million dollars annually to pay its operating expenses and to fund the income contingent aspects of the program.

Advantages of the New York Program

1. The program offers an additional, rather simple method to help students finance their higher education, using educational institutions themselves as the conduit. It does so at little or no cost to state taxpayers or to the participating institutions, since it piggybacks on other, already existing state and federal programs.

2. The proposal adds new flexibility to existing student loan programs by (a) allowing state standards for student loans to "float" with any liberalization enacted by Congress in its student loan guarantee program; and (b) providing a method for implementing the income contingent features mentioned above.

3. In some ways, the program is more attractive than the income contingent plans proposed by the Ford Foundation and implemented by Yale University: Under the legislation, borrowers who achieve relatively early economic success are not directly subsidizing borrowers whose incomes fail to reach a level sufficient to repay their loan, as is true under the latter plans.

4. The proposal taps an entirely new source of capital to help finance higher education within the state, i.e. the private tax-exempt bond market.

The Federal Student Loan Marketing Association

The Higher Education Act of 1972 authorizes the creation of a Federal Student Loan Marketing Association ("Sally Mae"), a United States government sponsored, private corporation. The affairs of the corporation will be managed by a 21-member Board of Directors, 7 of whom ultimately will be elected by the participating educational institutions and 7 by participating financial institutions; the remainder of the Board members will be appointed by the President. Section 438 of that Act provides:

> "The Association is authorized, subject to the provisions of this section, pursuant to commitments or otherwise, to make advances on the

> security of, purchase, service, sell, or otherwise deal in, at prices and on terms and conditions determined by the Association, student loans which are insured by the Commissioner under this part or by a State or non-profit private institution or organization with which the Commissioner has an agreement under section 428(b) (the Federal Student Loan Guarantee Program)."

It is impossible to predict how that authority will be implemented. The statutory language appears broad enough to permit a program on a national level similar to the New York modified deferred tuition plan. On the other hand, it is equally possible to administer the statute merely as a secondary market for the purchase of student loans from financial institutions, in the same manner as the Federal National Mortgage Association ("Fanny Mae") operates with respect to home mortgages.

Student Loan Options Available to the State of California

1. Direct Loan Program

(A) An existing state department or agency could be authorized by the electorate to issue General Obligation Bonds of the State of California, and to lend the proceeds to qualified students attending authorized, post-secondary institutions. Such loans would qualify for 80% federal insurance against any defaults. This is similar to the recently initiated New York plan described earlier. New York anticipates that the total cost to the state of its loan program will not exceed the $300,000 required for administration.

(B) A public benefit corporation authorized to issue tax-exempt bonds backed by the "moral obligation" of the state for the same purpose could be authorized. This alternative has the possible advantages of not requiring a constitutional amendment or test litigation to finally determine its constitutionality, nor the use of the state's credit to raise the necessary funds.

2. State Guarantee Program

(A) The State would authorize a contract with United States Aid Funds, Inc. Such action would probably require the appropriation of an amount sufficient to fund a reserve to guarantee defaulted loans and a continuing obligation to pay that portion of the cost of administering the program which is not covered by the one-half percent insurance premium charge permitted to be imposed on each borrower by the federal act.

(B) The State Legislature could enact a bill which would create a public benefit corporation, which might be known as the Higher Education Assistance Agency ("Agency"), to guarantee student loans to California residents made by private banking institutions. The Agency's guarantee would be backed by a guarantee fund.

Another variation which might be considered is to substitute for the guarantee fund a state "moral obligation" to annually appropriate the amount of the anticipated defaults for the coming year, as was recently enacted in New York State. The advantage of using the "moral obligation" approach -- assuming its legality and acceptance by participating financial institutions -- is that it does not require the appropriation of substantial sums by the state which are then held in a fund that, although not presently needed, may not be used for other current state purposes. The "moral obligation" language enacted by New York State and accepted by its participating financial institutions, is as follows:

> "In order further to assure the payment by the corporation to lending institutions for defaulted loans in the respective amounts as guaranteed by the corporation pursuant to contracts, there shall be annually apportioned and paid to the corporation such estimated amount, if any, as shall be certified by the Chairman of the Board to the Governor and Director of the Budget as necessary to provide for the payment of all defaults for the next ensuing state fiscal year. The Chairman of the Board shall annually, on or before December first, make and deliver to the Governor and Director of the Budget his certificate stating the estimated amount, if any, required to pay defaults for the ensuing state fiscal year, if any, and said sums shall be apportioned and paid to the corporation during such fiscal year."

The major advantage to be gained by California from the creation of such an Agency is greater control over the development, direction and administration of student loan programs within the state.

3. A Mechanism to Implement a Modified Deferred Tuition Concept

The State might create a public benefit corporation authorized to issue tax exempt bonds backed by the "moral obligation" of the state, and to use the proceeds to purchase guaranteed student loans from eligible colleges, universities, other post-secondary educational institutions, financial institutions, credit unions and pension funds, and where guaranteed student loans are not available from the private banking system, to make them directly to student borrowers, subject to state and federal guarantees.

This public benefit corporation could operate similarly to the New York Plan, with appropriate modifications to meet the educational, fiscal and political needs of California as determined by the Governor, state planning agency, University Regents, the Legislature, and official legal opinion concerning constitutional restrictions. In addition to greater control over the development, direction and administration of student loan programs, such a public benefit corporation might bring to California the advantages described in the discussion of the New York deferred tuition plan.

5. CURRENT PRACTICES IN STATE FINANCING

Each of the fifty states has devised its own plan for financing post-secondary education. With no common thread, aside from the high value placed on education in all states, a wide variety of patterns has evolved, influenced by each state's history, geography, economy, and tradition. This section reports pertinent highlights of several financing patterns and proposals, selected to illustrate some of the prevalent emphases and alternatives. Comparative data on the states reviewed, and other similar states including California, are presented in Table 5.

The evolution of such diverse financing arrangements was due in part to the absence, until quite recently, of centralized state planning. This situation has changed markedly over the last 20 years as enrollment growth and cost rises have made post-secondary education a major concern of state governments. Statewide governing boards, strong coordinating agencies, and actively concerned legislative committees have made systematic efforts to create coherent financing plans. The legacy of diversity is still with us, but a tendency toward similarity is likely as states emulate each other's successful programs, and as they alter their plans so as to take maximum advantage of new federal legislation.

A Predominantly Public System: Colorado

Whereas most eastern states depend upon a substantial private sector, post-secondary education in the West evolved in a different pattern. With most of the population growth and development occuring after passage of the Morrill Land Grant College Act of 1862, the public institutions have dominated, clearly influencing the financing pattern of today.

Colorado is representative of many of these states, and although much smaller, shares much of California's pattern. It has eight four-year institutions under four different boards; and twelve community colleges, half under a statewide board and half under local boards drawing on state and local funds. These public institutions enroll about 86% of the 100,000 FTE students in the state (excluding the Air Force Academy), with the remainder in seven private institutions.

TABLE 5a

STATE PROFILES (1970 - 1971)

STATE	FTE ENROLLMENT PUBLIC	FTE ENROLLMENT PRIVATE	Percent Private Enrollment	Nat'l Rank	% of Students Enrolled in Pub. Inst. to Total Pop.	Tuition Range(1) Public Inst. ($)	State Approp. for Operating Expenses ($)	State Approp.(2) for Student Aid ($)
CALIFORNIA	741,314	105,274	12.1%	(42)	3.83	0-150-450	817,126,000	23,813,000
COLORADO	88,173	13,093	12.9%	(40)	4.03	153-293-426	110,624,000	8,119,000**
ILLINOIS	239,895	108,639	31.2%	(12)	2.17	(0 to 420) 0-349-496	477,546,000	33,102,799
INDIANA	110,146	47,935	30.6%	(14)	2.11	(0 to 680) 0-527-700	173,979,000	3,140,000
MICHIGAN	258,479	44,311	14.3%	(37)	2.94	300-375-568	343,691,000	12,867,000
MINNESOTA	107,799	29,021	13.2%	(39)	2.83	326-393-522	143,448,000	1,475,000
NEW YORK	331,554	276,991	45.3%	(4)	1.81	(0 to 550) 0-276-831	745,529,000	70,300,000
OHIO	226,565	81,867	26.1%	(18)	2.10	300-450-660	260,690,000	8,500,000
OREGON	80,952	12,503	13.4%	(38)	3.84	90-136-504	95,901,000	530,000
PENNSYLVANIA	182,457	147,790	44.6%	(5)	1.55	330-630-710	352,787,000	51,400,000
WASHINGTON	125,657	17,909	12.4%	(41)	3.70	210-360-432	190,903,000	390,000 (1,444,127)*
WISCONSIN	140,497	27,520	16.4%	(33)	3.17	0-432-508	181,237,000	3,363,000
U.S. AVERAGES			26.01		2.42			

(1) Range indicates approximate yearly tuition and fees for Comm. Colleges — State Colleges — Universities for 1970-71.

(2) State Dollars for Competitive/Non-competitive aid to Undergraduate state residents for attendance at public or private post secondary institutions. [Does not include tuition waivers, grants for specific career preparation, or military service related benefits. California figure as reported by Boyd (see sources listing following bibliography) adjusted to include education opportunity grants.

* ( ) is the figure for 71-72 = Need Grant: $594,127 + Tuition Supplement Program: $850,000 (for use at privates only).

** For use at public institutions only (figure for year 71-72).

TABLE 5b

STATE PROFILES (1970 - 1971)

Student Aid as % State Approp. for Operating Expenses	State & Local Approp./Student ($)	Nat'l Rank	State & Local Approp./$1000 Pers.Inc.	Nat'l Rank	Per Capita/ Personal Income ($)	Personal Income $(Millions)	Population	
2.9%	1567	(19)	14.67	(9)	4,426	88,825	19,994,000	CALIFORNIA
7.4%	1343	(33)	14.01	(13)	3,816	8,468	2,225,000	COLORADO
7.0%	2457	(3)	11.83	(22)	4,502	50,131	11,137,000	ILLINOIS
1.73%	1597	(17)	10.20	(32)	3,781	19,679	5,208,000	INDIANA
3.75%	1500	(23)	11.91	(21)	4,059	36,124	8,901,000	MICHIGAN
1.03%	1335	(36)	11.15	(26)	3,824	14,580	3,822,000	MINNESOTA
9.4%	2718	(2)	11.57	(24)	4,769	87,111	18,260,000	NEW YORK
3.3%	1403	(27)	8.45	(43)	3,972	42,382	10,688,000	OHIO
.56%	1250	(39)	13.70	(15)	3,705	7,777	2,102,000	OREGON
14.6%	1930	(7)	7.79	(46)	3,927	46,329	11,817,000	PENNSYLVANIA
.39% (.74%)***	1588	(18)	14.09	(12)	3,993	13,671	3,414,000	WASHINGTON
1.8%	1758	(10)	19.15	(2)	3,693	16,351	4,433,000	WISCONSIN
	1625		11.34		3,915			U.S. AVERAGES

*** Comparative figure for 1971-72 based on appropriations of $196,649,000. It is felt that this later figure more accurately indicates the states participation in Student Aid.

Resident tuition is set at 25% of estimated operating cost per FTE student (1971-72 tuition range for four-year institutions: $318-$566). Colorado has long attracted students from out of state, so it is not surprising that it was among the first to set non-resident tuition at the full cost of instruction.

Institutional budgets are arrived at on the basis of staffing guidelines applied to enrollment estimates, adjusted in the light of special needs, and subjected to detailed legislative scrutiny. Until the last few years, low tuition and tuition waivers were the only significant student subsidies. A need-based student grant program, plus a state work-study arrangement will channel some $9.2 million (8% of state post-secondary appropriations for operations) directly to students in public institutions in 1972-73. No state funds go to private institutions or their students.

Balanced Public-Private Systems: New York and Pennsylvania

New York State has the second largest public post-secondary educational system in the country (after California), enrolling in 1970-71 some 330,000 FTE students. In addition to this, and unlike systems in the West, New York has a large number of private institutions which enroll over 44% of all post-secondary students in the state. The public system, founded in 1948, has become a major factor in the statewide enrollment mix of New York only in the last decade (though the City University of New York has long been an important factor in New York City).

New York has led the way in confronting the problems shared by other eastern states which once relied primarily on private institutions to take care of post-secondary educational needs, but which now are forced to increase the public sector's capacity in order to meet enrollment demand. New York's solutions to these problems have been innovative and complex, and illustrate most of the steps that have been taken to cope with the mixed-system problems. Part of the solution lay in spending lots of money. In 1970-71, state and local appropriations for post-secondary education came to $2,718 per FTE student, second among the states only to Alaska's abnormally high figure.

These funds to higher education appeared in basically three areas: the public system, directly to the private system, and to students.

1. State support for the public system is handled

through the New York Board of Regents, which has budgetary authority over educational funds. In addition, each of the public universities (the State University of New York and the City University of New York) has its own Board of Regents which makes budgetary recommendations. In 1970-71, SUNY and its community colleges received $526 million while enrolling 75% of all public sector students, while CUNY, which enrolls 70,000 students, received $86 million in direct state aid. In addition to all of the above aid, New York provided $120 million in capital aid to public institutions.

2. New York has maintained since 1969 a program of direct support to private universities and colleges within the state. This "Bundy Aid" provides annual payments of $400 per earned bachelor's or master's degree, and $2,400 per doctoral degree, to private institutions meeting accreditation standards. In 1971-72 the program cost approximately $30 million and represented 3% of total state higher educational expenditures. Though there has been some dissatisfaction among private institutions regarding the use of degrees as a measure of productivity, and as a criterion for aid, it seems to provide a standard which minimizes state control. In addition to this non-categorical aid, New York has budgeted for 1972-73 just over $20 million to aid private medical and technical schools.

3. The state operates a number of large aid programs directed towards resident students. The greatest measure of aid has gone to those attending private universities and colleges, but the proportion is slowly changing in favor of the public institutions. Of the four major aid programs, two scholarship programs accounted for $69 million in 1971-72 and represented over 7% of all state funds to higher education. These two included the Scholar Incentive Award, a totally need-based program for New York residents, which provides maximum grants of $600 for use at any institution in the state; and the Regents Scholarship Program, a competitive, partially need-based award limited to tuition and providing a maximum grant of $1,000. Neither of these programs is designed to cover anything more than tuition costs. Therefore, New York has funded a Higher Education Opportunities Program and a Special Opportunities Program (SEEK) at a level of $31 million in 1971-72, both designed to provide comprehensive aid to those with significant educational disadvantages. A loan program, which is described in detail in Section 4, has provided guarantees for loans of over $1 billion since its inception in 1957.

Pennsylvania, the third largest state, has an approximately equal public-private mix as does New York, and also channels most of its financial assistance through student aid. Although its level of state and local appropriations per student is high (seventh in the nation), it stands 46th in terms of post-secondary expenditure for each dollar of per capita income. This disparity derives from the fact that Pennsylvania has not until recently committed itself to support of low tuition public education and consequently has a rather low rate of participation in post-secondary education.

Of particular interest in Pennsylvania are a number of practices and programs which are not widely used in the U.S., including direct aid to private institutions, financial aid for students who leave the state to attend college, and advance provision of state funds to meet matching provisions of federal programs. Some major elements of the program:

1. In addition to indirect aid to private institutions via student grants and loans, Pennsylvania has provided direct state support for private higher education at private non-sectarian colleges and universities for several decades. In 1965, three universities (Temple, Pittsburgh, and Pennsylvania) which were formerly private became state related and thereby eligible for extensive aid. In 1970-71 these three institutions received just over $150 million in operating and categorical aid. In addition, 14 state aided independent institutions with autonomous governing boards received over $22 million in aid. These sums, totaling $171 million, represented about 50% of the total higher education budget for the state. The purpose of these massive grants, which are slated to continue at approximately the same levels, was to rescue these 17 institutions from financial insolvency and to encourage the enrollment of Pennsylvania students in Pennsylvania private institutions. The other 103 private institutions in the state also receive occasional direct grants -- usually for capital improvements.

2. The wholly state controlled state college system consists of 14 colleges and Pennsylvania State University, distributed about the state. In addition, there are presently 15 community college campuses. Tuitions at most public institutions are comparatively high ($700/year), although aid grants detailed below attempt to meet approximately half the tuition costs for those unable to pay.

3. In 1965 Pennsylvania initiated its Higher Education Assistance Authority with funding at $3.5 million. Since that time Pennsylvania has removed academic qualifications from its assistance programs -- basing grants and loans solely on need. Of particular interest within the program is the applicability of Pennsylvania student aid to out-of-state schools. In 1970-71, $8.5 million was used by Pennsylvania

residents in colleges outside the state -- an amount equal to 17% of the $50.7 million in grants awarded. Private universities and colleges, plus the three state related institutions, received 55% of all student aid. The entire aid program amounted to an exceptional 14.5% of state expenditures for higher education.

In addition to the grant program, Pennsylvania has supported a State Guaranteed Loan Program since 1964 which has loaned over $400 million. $105 million of this amount was contracted in 1970-71.

4. Finally, Pennsylvania maintains a special fund for use by institutions which are in need of monies to fulfill matching grant provisions of federal programs. The purpose of the fund has been to insure that the maximum use is made of federal funds. Approximately $2 million of this fund were disbursed during 1970-71, mostly as matching grants for the federal Work-Study Program.

A Dual Support System: Illinois

Illinois, the fifth most populous state in the country, in 1970-71 ranked third in combined state and local appropriations per student ($2,457) for post-secondary education. The state has remained committed to developing a system of breadth and quality which is both public and private. At present, Illinois has developed a mix of student and institutional aid programs, many of which resemble those in New York and Pennsylvania.

1. The state provides its private institutions with the usual forms of indirect aid, but in addition has instituted a direct grant program which provides to private colleges and universities $100 for each freshman and sophomore Illinois scholarship winner and $200 for each junior and senior undergraduate Illinois resident. The program cost Illinois $5.7 million in 1971-72. This represents about one percent of total expenditures for higher education. In addition to these direct grants, Ilinois last year allocated over $20 million in categorical aid to medical schools throughout the state, and $350,000 in funds for inter-institutional cooperation.

2. The Illinois state system is presided over by a Board of Higher Education which performs budgeting, planning, and regulatory functions. Funds for the system are appropriated primarily according to an FTE enrollment formula. Some four different boards have governing authority over the segments within the state system.

3. Aid to students in Illinois includes both competitive and non-competitive grants in amounts from $150-$1,200 but limited to tuition. An important characteristic of the need grant program is the provision for accepting upper division students as first-time applicants. This provision, along with aid allowances for part-time students, has expanded greatly the applicability of these funds to a wide range of Illinois students. The program rose in funding from 1971-72 to 1972-73 from $40 million to $51.38 million. This last amount represents over 10% of total post-secondary educational expenditures. A consistent 65% of the aid has gone to students attending private institutions. In addition to this aid, the Illinois State Scholarship Commission administers a standard state guarantee loan fund which has guaranteed, since 1958, just under $200 million in loans. A final element of student aid in Illinois provides for institution-determined tuition waivers to students meeting various criteria.* Last year 3.75% of all state undergraduates were on waivers which added up to $23.4 million in uncollected funds, about 4% of educational expenditures. The program has come under criticism since it is not need based and does not tie in adequately with other forms of aid. Consequently, it is to be reduced to two percent of undergraduates this year.

Tax Credits: Indiana

Thirty percent of Indiana's 158,000 students are enrolled in private institutions. Primarily to aid these institutions, a tax credit plan was initiated three years ago which permits individuals to deduct from their income taxes 50 percent of gifts made to institutions of higher education, up to a limit of $50. Corporations have the same privilege, but with a $500 limit.

Note that the credit applies only to gifts, and is not the tuition tax credit or the deduction from taxable income which was proposed at the federal level in the mid 1960's. We are not aware of any state that has adopted a tuition credit against taxes.

It was computed that this provision could have cost the state $20 million in its first year to encourage twice that amount in gifts. Instead, only 8 percent of taxpayers took advantage of it and credits claimed totaled only $430,000. Presumably the privilege was used mainly by those who were already making contributions. In the following year, the amount claimed dropped to $264,000 but in 1971-72, the third year, credits rose to $1,128,000 due to an amendment that permits gifts to college and university foundations.

---

*These waivers have been used primarily to encourage enrollment in occupational fields where shortages or social need exists.

Paradoxically, although the program was originated to aid private institutions, the public universities appear to have benefitted most from it, having attracted funds for new buildings. State officials indicate that this is an expensive program for the state, but note that it achieves the aim of maximizing institutional independence.

The Portable Grant, Full Cost Model: The Wisconsin Proposal

Wisconsin has one of the highest rates of high school graduation in the country, yet its rate of enrollment in academic post-secondary education is below the national average. Its pattern of financing, which is generally similar to that in most western and midwestern states, has not stimulated broad access to colleges and universities.

Economists W. Lee Hansen and Burton Weisbrod have worked out in some detail a portable grant or "voucher" plan calling for full-cost pricing and full grants for all who demonstrate need, intended to further access, equity and diversity. The plan was recommended by the Governor's Commission on Education in 1970, and is still under consideration. Action on the plan has been held up by resistance of the State University, which saw a diffusion of monies and levelling of support under the plan; by uncertainty about the plan's effect on federal aid; and by legislative reluctance to raise tuitions.

The designers of the program describe it as "replacing the present system of state undergraduate education grants to public institutions with a system of state grants directly to students. The grants are designed (a) to offset the limited financial resources of lower income students, and (b) to permit them to enroll in either public or private institutions. Public institutions of higher education would then derive their revenue not from the state but by charging all students the full instructional costs of college, much or all of which would be reimbursed by state grants to lower income students. Hence, higher income students would no longer have their educational expenditures subsidized by state taxpayers."*

---

*Hansen, W.L. and Weisbrod, B.A., "A New Approach to Higher Education Finance", in FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT, M.D. Orwig, Ed., The American College Testing Program, Iowa City, Iowa, 1971, pp. 117-142.

The proposal is limited to undergraduate education due to lack of time to work out its graduate analogue and uncertainty that it is applicable at that level. It calls for a standard student budget, which would have been $2,100 in 1969-70 ($1,400 tuition, $100 books and supplies, $600 maintenance), as the basis for determining need. Expected family contributions, based on standard formulas, other grants, and normal student summer earnings would be deducted from the budget, and the remainder amount would be paid to the student for use at any institution in the state, public or private.

The designers of the plan computed its cost implications, based on 1969-70 data. They determined that student grants would total approximately $85 million, assuming no enrollment increases. With an anticipated enrollment increase of between 3,000 and 6,000 students, and on the assumption that all of these students would receive maximum grants, the added costs would run between $5 and $10 million. Hence the total cost of implementing the program would range between $90-$95 million. (This figure does not include an estimate of the administrative cost of handling the grant program.) Since the State of Wisconsin now commits resources in the amount of $123.3 million to support undergraduate education, adoption of this proposal would yield a saving of between $28 and $32 million. This substantial saving arises because the present large subsidies in Wisconsin ($950-$1,350 per student yearly in order to maintain low tuition) are more than sufficient to offset the total estimated financial need of students.

CURRENT COSTS		PROJECTED COSTS	
based on state direct support of public H.E.		cost of grants to students unable to pay standard costs; current enrollment (approx. 157,000)	
Institutional Subsidies	$93.3 million		85.0 million
State aid to vocational schools	8.8	Additional enrollment of 3,000-6,000 lower income students	5.1 - 10.2
State Scholarships	6.2		
State Payments for Capital Amortizations	15.0		
TOTAL	$123.3 million		$90.1 - 95.2 million

SAVINGS: $28.1 — $33.2 million

These savings could be used to (1) reduce the level of state taxes, (2) provide a source of funds for other programs, (3) provide additional grants to students and their families. (The Governor's Commission recommended that $500 be given across the board as a minimal state grant, which would have exhausted the savings.) The following table shows the effect of of the program on various income groups:

Family Income Level	% Distribution of student families	Average Effect of Ed. Grant on Family Costs	
0 — 4,999	16	+ 600	reduces costs
5,000 — 7,499	19	+ 400	
7,500 — 9,999	20	- 50	little or no change
10,000 — 12,499	13	- 500	losses
12,500 — over	32	- 950	

For a family having an annual income of less than $5,000, possessing no net worth, and having a total of three children, no family contribution to the education of the child is expected, according to the CSS formula. The student contributes $350 from summer earnings and receives an educational grant of $1,750 ($2,100 less $350). He would be better off by $600 as compared with his position under current conditions.

For a student from a family having a $20,000 annual income, average net worth, and a total of three children, a parental contribution of $2,250 would be expected. In addition, the student would be expected to contribute from his own savings and summer earnings a total of $500. His total ability to pay would be $2,750, well above the standard budget of $2,100 and ineligible therefore for any grant. He would be worse off by $950, for his tuition has risen from $450 (the current Wisconsin tuition) to $1,400.

Deferred Tuition - The Ohio, Yale and Duke Plans

Deferred tuition plans are basically loan programs in which the institution or the state system is the lender. The right to borrow is automatic, and thus the procedure for obtaining a loan is simple and painless.

Most of the presently conceived plans include an "income-contingent" provision under which repayment is tied to the level of earnings of the borrower.

Ohio's Governor Gilligan proposed last year a deferred tuition plan for students at all public colleges and universities. Under it, an entering student would sign an agreement to repay in full the subsidy provided by the state (now about $3,000 for four years), after graduation. Payments would begin after his salary reached $7,000 per year, and would be on a sliding scale geared to income. The Governor estimated that the state would save some $5 billion over the next 30 years.

The plan failed to take into account a number of economic factors, including the role of interest, and did not present a solution to the problem of collection from former students who leave the state. It has not been acted on by the legislature.

The Yale Plan and the Duke Plan are now in operation at these private universities, each of which has adequate endowment to carry initial cost of deferring tuition and the risk of default.

Under Yale's plan, the graduate pays off his loan at some percentage of his income per $1,000 borrowed for a specified repayment period. If the amount borrowed is not repaid at the end of the period, the rest is forgiven. He may also pay off the loan early at what amounts to a slight penalty.

The Duke plan is much the same. A graduate may reimburse the school in a lump sum plus eight percent interest, or make 30 annual payments of .36 percent of income for each $1,000 deferred.

Some features of deferred tuition and income contingent plans can be incorporated into any loan plan, as described in Section 4, which treats the subject of loans in some detail.

6. PRODUCTIVITY

Increasing productivity is not, of course, a device for financing higher education. But it is an important element in a broad, cooperative effort to resolve the present cost squeeze. Thus we include this brief review of some of the problems and opportunities in this area.

Since the beginning of the industrial revolution, productivity and income - the determinants of the standard of living - have risen steadily as a greater portion of the productive burden has been shifted onto machines and improved organizational forms. The output per man day in manufacturing, transportation, distribution, and many other fields has increased as a result of new techniques and technologies.

Such gains have not been shared equally. Endeavors which continue to be labor-intensive, and thus fail to share in productivity increases, include those which cannot, or at least do not, make major use of new methods. Education, which expends about 80 percent of its revenues in salaries and wages, is among those fields which have not undergone major change. In fact the last major change in educational methods goes back well beyond the industrial revolution to the invention of moveable type and the printing press. These developments made it possible to transmit knowledge without reliance on personal contact. It meant the lecture system, devised so that students could copy down in their notebooks the wisdom that their professors had amassed in their own handwritten books, could be abandoned in favor of more productive uses of faculty time. Yet the lecture system has persisted in higher education, and the adoption of other methods that might increase faculty productivity has lagged.

The state, as the principal funding source, can provide inducements for changes that will increase productivity. But in order to be effective, such changes must be devised and accepted by faculties and other institutional personnel. In a paper urging faculty initiative toward increasing productivity, Richard N. Farmer points up some of the dilemmas.* He notes that successful manufacturing industries, through effective use of automation and improved management methods, increase their manpower efficiency by amounts greater than the average income growth, which now is about 4 percent per year. "But string quartets, education, baseball teams and numerous personal services either increase efficiency much more slowly or not at all. The limit is reached by a string quartet, which requires exactly the same number of man-hours to produce its services as it did in 1750. There is no efficiency gain at all."

---

*Farmer, Richard N., "University Management", Economic and Business Bulletin. Farmer draws extensively on the writing of William J. Baumol, especially his "Macroeconomics of Unbalanced Growth: The Anatomy of the Urban Crisis", American Economic Review, June 1967.

Education is not in the same fix as string quartets. There are opportunities to improve productivity in education, but they have been slow to evolve and to spread.

During the first half of the twentieth century, higher education resolved the problem of low productivity in the face of rising prices by holding down faculty salaries. Professors slipped drastically on the comparative pay scale. Then after World War II colleges and universities underwent a period of rapid growth and strong public support, nurtured by a new reverence for the power of technical advances coming out of the world of learning. Faculty salaries were increased to meet the competition for brainpower. And problems of inefficiency were buried under the ever-rising funds provided by approving legislatures and philanthropies.

Now all of this seems to be ending. New methods must be found if faculty and students are not both going to suffer; the one through lower real salaries and continually rising work demands, and the other through lowered quality. This need for improvement is not confined simply to solving a current problem, but it is necessary if higher education is to stay abreast of rising productivity, rising wages, and rising costs in the rest of the economy.

Among the opportunities to reduce cost of instruction while maintaining or even increasing quality is extensive use of technological aids (television, film, recorded sound, computers, programmed learning) in skill courses, or in segments of comprehensive courses that are essentially skill acquisition or simple absorption of factual material.* An example is the use of videotape in teaching accounting at Colorado State University, now in its seventh year of use. It has permitted a reduction of six full time faculty members;

---

*See The Fourth Revolution - Instructional Technology in Higher Education (June, 1972), a report of the Carnegie Commission on Higher Education, for a concise, thorough review of current uses of technology.

learning has been excellent, as evidenced by the fact that CSU students performed substantially better than a national sample on a standardized accounting examination (scoring an average of 83 on a standard curve on which 50 is the national norm). Similar methods can be developed, or adapted from other sources, in many areas of mathematics and science, language study, and even in introductory portions of "soft" subjects such as literature and philosophy. Not only can savings be made, but in a generation that has spent much more time in front of a television screen than in a classroom, we might achieve better and more consistent preparation for advanced work.

Another opportunity for reducing costs exists in encouraging independent and off-campus work through carefully organized external or "open university" types of programs featuring self-paced work, credit by examination and credit for work experience, etc. But a caveat is in order: The basic purpose of such outreach programs is to serve populations not now benefitting from the system, and should not be viewed exclusively as a way to save money. Some savings can be realized from them, but if quality is to be maintained, more will have to be expended on counseling, individual tutorial work, and other efforts to replace the educational effect of the usual on-campus experience.

Another device for reducing costs while maintaining quality is to increase institutional cooperation and the freedom of students to move from institution to institution. Faculty members too might divide their time among institutions. Such arrangements would facilitate elimination of marginal programs at some colleges, concentrating specialized work at just a few locations, with consequent savings in faculty, library, and facilities expense.*

---

*We would like to comment on a much-discussed plan which many look to as a cost-saver: The three-year degree. Although we have no quarrel with the educational merits of time flexibility in higher education programs, we see little reason to expect major economic benefits in a mass speed-up of college work alone. Shortened programs would require the same amount of faculty input, the same facilities (unless someone discovers the magic key to year-round campus use), and reduced student employment opportunities and consequently greater reliance on student aid. Shortening the years to a degree would reduce the student's cost in foregone income, but it would also have the effect of dumping students on an already crowded employment market at an accelerated rate.

An important way to improve faculty output which faculty members would welcome is through an increase in faculty support services. Nothing is more wasteful than forcing a $15,000 per year professor to do his own typing or computation or even routine test correcting. Such inefficiencies are chronic at most institutions, and a small investment in support services can yield a large return in productivity. Elsewhere in this report we discuss the value of a state supported work-study program to expand students' opportunities to earn more of the cost of their education. Creating work-study jobs in faculty support services would not only free faculty to do the things they do best, but would create new links between students and professors, and provide meaningful work experience for the students. Such jobs would also satisfy the work-study criterion of creating new employment positions rather than displacing present employees.

These are but a few examples of areas in which productive innovations should be explored; many development and pilot projects in this vein are underway in California. But such innovations will not be brought about by exhortation. Tangible incentives will be required. We would urge as a top priority the establishment of a fund, separate from institutional general fund appropriations, to support innovative experiments and development work directed toward increasing instructional productivity -- the support provided to the State University and Colleges innovative programs is a commendable beginning. A Statewide fund could be dispensed as grants to support the best proposals submitted each year, as determined by a qualified panel of judges. Competition can stimulate imaginative ideas, and inclusion of private institutions among those eligible for grants or development contracts would provide added stimulus to this kind of innovation.

Another requirement for increasing productivity is to have complete and realistic information on the costs and outputs of all programs. We are skeptical of systems that rely entirely on the ability to quantify the outputs of higher education. Some of the outputs are subtle, and more amenable to intuitive judgment than to counting. There is danger of being enslaved by a wholly quantified analytic system, abdicating managerial judgment to a machine. One leading authority, Dr. Thomas C. Shelling of Harvard, has warned that one such analytic device, Program Planning and Budgeting System, is a procedure..."whose worth depends on the skill and wisdom of the people who use it", and that "quantitative data can be subtly made prominent to the detriment of important qualitative considerations."* Nevertheless, we believe it is important to develop systems capable of analyzing program costs and outputs as a supplement to human judgment. Whether based on comprehensive Program Planning and Budgeting Systems being developed at a number of institutions, or on analytic systems making use of present accounting practices, they should be looked upon as tools to help assess programs, to establish priorities, and to pinpoint needs at the institutional and state-wide level. They must, therefore, yield reliable and comparable data.

---

*Quoted by Arthur M. Ross in "The Data Game", Inside the

Increasing productivity, by knowing what we want to do, knowing how well we are doing these things, and finding ways to do them better, is an obvious and attractive way to lessen the present financial squeeze. It cannot do the job alone, nor will its benefits be immediate. Nevertheless, it is an essential step if, in the long run, higher education costs are to be kept in line with those in other segments of the economic and social system.

System: A Washington Monthly Reader, New York: Praeger Publishing, 1970, p. 268. Dr. Ross served as Commissioner of the U.S. Bureau of Labor Statistics from 1965-68.

7. SOME OPTIONS FOR CALIFORNIA

The financing options that appear immediately amenable to California fall into two principal categories: pricing options and alternatives for student aid. This section examines likely courses of action in these areas in concrete terms. The cost implications of alternatives are computed wherever possible, but in highly simplified form. No attempt has been made to construct a computerized model of the state's financing of higher education. Such an effort is well beyond the scope of this study, but offers a course of action that should be taken if precise and confident planning is to be achieved in the future.

Our costing efforts have been confined to the determination of the effects of single variables. They are sufficiently accurate to permit comparison among options, and look only at costs that will be affected by the choices made.

In order to be consistent, we have based all computations on the year 1971-72 (except for cost data, for which 1970-71 figures are the latest available). Thus any computation below should be taken as saying, "if we had done thus and so in 1971-72, the costs would have been this much, or this much more than the way we did it". Furthermore, to keep the analyses reasonably simple we have concentrated mainly on options at the undergraduate level, at which 92 percent of all California post-secondary students, and 95 percent of those in state institutions, are enrolled. Problems at the graduate level differ in many ways from college level work, and would require separate study once basic principles are established.

One further caveat is required, concerning the definition of student need, a factor in most of the following computations. Need is derived by subtracting from a student's projected educational expenses (student charges, living expenses, books, etc.) a sum representing expected self-help - normal summer earnings plus family contributions. The latter is usually based on formulas developed by the College Scholarship Service, or a similar agency, which determines the sum a family should be expected to pay, taking into account its income, assets, number of children in the family, etc. This presumes that parents can be held accountable for their children's educational expenses. But how does one deal with the "emancipated" student who claims independence from his family? At present there are rigid guidelines for making a determination about who is emancipated, but with the age of majority lowered to 18, the dependence of college students on their parents is coming into question both in fincancial aid offices and in the courts. The increasing presence of older students in post-secondary education further confounds the old assumptions. How the matter will be resolved is now unclear, but for the present we have no better basis for determining need than family income and rely on the existing provisions for determining need in the following analyses.

Table 6 shows computations of student financial need under three pricing patterns: 1) the existing structure, 2) a full-cost pricing model, and 3) under a system that would charge students for 75 percent of the cost of their instruction. Data for the independent sector are shown only for the present pattern, since it is impossible to predict the effect of higher pricing at public institutions on the independents' tuition levels.

Modifying the Present Pricing Structure

California's system of financing fits what was referred to in Section 3 as a conglomerate model, with a mix of institutional and student aid, but with student charges in public institutions at the low extreme when compared with other states. Probably the greatest shortcoming of the system (and not just the total level of funding which, as shown in Table 5, has created serious problems) is the failure of student assistance funds to grow along with the rise in student charges and living costs.

Table 6 (Column 7) shows the total undergraduate need for financial aid at all California institutions in 1971-72 to have been $497 million. Against this figure the Governor's Budget for 1972-73 reported that $252 million was available, some $150 million of it in the form of loans. Thus there is a gap between need and aid of some $245 million. If one considers only the public institutions, the gap was $184 million.

It should be pointed out that only $27 million of these total aid funds (and less than $14 million of the sum available for public institutions) were from the State of California, according to the budget data. The subsequent budget (1972-73) provided for only a slight increase, to a total of $34 million. The bulk of the aid came from federal sources. If the present pattern of student charges

Table 6

COMPUTATION OF STUDENT AID REQUIREMENTS UNDER ALTERNATIVE PRICING PATTERNS

(Confined to California Undergraduate Students)

			PRESENT PRICING PATTERN					FULL COST PRICE			75% OF CURRENT COST PRICE		
	Family Income (000)	% in Income Bracket	No. Students in Bracket	Expected Parental Contribution	Student Budget	Aid Needed Per Stu.	Total Aid Required (000)	Student Budget	Aid Needed Per Stu.	Total Aid Required (000)	Student Budget	Aid Needed Per Stu.	Total Aid Required (000)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
U of CAL.	$ 0-6	15.2	9,926	$ 0	$2,066	$2,104	$ 20,884	$2,066	$4,145	$ 41,143	$2,066	$3,363	$ 33,381
	6-9	11.8	7,705	391	+ 638	1,713	13,199	+2,679	3,754	28,925	+1,897	2,972	22,899
	9-12	13.4	8,750	1,012	2,704	1,092	9,555	4,745	3,133	27,414	3,963	2,351	20,571
	12-15	13.7	8,946	1,559	- 600	545	4,897	- 600	2,586	23,134	- 600	1,804	16,139
	15-21	19.7	12,864	2,571	$2,104	—		$4,145	1,574	20,248	$3,363	792	10,188
	21+	26.2	17,109	3,364		—			781	13,362		—	
			65,300				$ 48,514			$154,226			$103,178
CSUC	$ 0-6	21.0	38,872	$ 0	$2,032	$1,594	$ 61,962	$2,032	$3,641	$141,533	$2,032	$2,976	$115,683
	6-9	16.1	29,802	391	+ 162	1,203	35,852	+2,209	3,250	96,857	+1,544	2,585	77,038
	9-12	17.6	32,578	1,012	2,194	582	18,960	4,241	2,629	85,648	3,576	1,964	63,983
	12-15	15.3	28,321	1,559	- 600	35	991	- 600	2,082	58,964	- 600	1,417	40,131
	15-21	16.8	31,097	2,571	$1,594	—		$3,641	1,070	33,274	$2,976	405	12,594
	21+	13.2	24,433	3,364		—			277	6,768		—	
			185,103				$117,765			$423,044			$309,429
C.C.	$ 0-6	25.2	132,567	$ 0	$1,739	$1,139	$150,994	$1,739	$2,179	$288,863	$1,739	$1,807	$239,549
	6-9	19.0	99,951	391	+ 0	948	74,763	+1,040	1,788	178,712	+ 668	1,416	141,531
	9-12	16.0	84,169	1,012	1,739	127	10,689	2,779	1,167	98,225	2,407	795	66,914
	12-15	14.2	74,700	1,559	- 600	—		- 600	620	46,314	- 600	248	18,525
	15-21	14.1	74,174	2,571	$1,139	—		$2,179	—		$1,807	—	
	21+	11.5	60,497	3,364									
			526,058				$236,446			$612,114			$466,519
				TOTAL AID REQUIRED PUBLIC INSTITUTIONS		—	$402,725			$1,189,384			$879,126
INDEPENDENTS	0-6	14.4	7,836	$ 0	$1,924	$3,528	$ 27,645						
	6-9	12.0	6,530	391	+2,204	3,137	20,485						
	9-12	13.9	7,564	1,012	4,128	2,516	19,031						
	12-15	14.0	7,618	1,559	- 600	1,969	15,000						
	15-21	18.4	10,012	2,571	3,528	957	9,581						
	21+	27.3	14,855	3,364		164	2,436						
			54,415				$ 94,178						
				TOTAL AID REQUIRED			$496,903						

SEE THE FOLLOWING PAGE FOR NOTES, SOURCES, ASSUMPTIONS, AND EXPLANATIONS.

SOURCES AND ASSUMPTIONS FOR TABLE 6

(All data for 1971-72 except as noted)

Column 2	Distributions by family income level are from the findings of the Student Resources Survey (SRS) conducted in Spring, 1972 by the College Entrance Examination Board and the California State Scholarship and Loan Commission.
Column 3	The total number of FTE or ADA resident students in each segment, derived from SRS data on residency and enrollment estimates from the Analysis of the 1972-73 Budget, distributed in accord with the proportions in Column (2).
Column 4	Expected contributions from Table A of the College Scholarship Service need analysis interpolated between two and three children families.
Column 5	A separate computation of an average student budget is made here for each segment. The first item is an average student maintenance budget derived from the representative institutional budgets used in the SRS report, weighted in accordance with the residence (at home, away) and dependency status found by the SRS. The second line is a sum for student charges - medians for the public institutions, the weighted average tuition for independents. $600 is then subtracted to reflect normal summer earnings. Note that this figure differs from the $450 now generally used in need computations; we raised the amount used because the lower figure seems out of line in view of SRS findings regarding student earnings, which proved to be much higher than previously assumed.
Column 6	The student budget from (5) less the expected parental contribution (4).
Column 7	The product of (3) and (6).
Column 8	Student budget computation using for student charges the sum of average cost of undergraduate instruction for each segment, as determined by the Coordinating Council for Higher Education, weighted in accordance with the lower division-upper division enrollment ratios.
Column 9	The student budget from (8) less the parental contribution.
Column 10	The product of (3) and (9).
Column 11	Student budget computation using for student charges 75 percent of average cost of undergraduate instruction, weighted as in (8).
Column 12	The student budget from (11) less the parental contribution (4).
Column 13	The product of (3) and (12).

and financing is maintained, added student aid funds will be required if open access, which is presumably dependent on fully meeting student needs, is to be achieved. The nature and source of such funds is discussed below when we consider the mix of elements in a financial aid "package".

Full-Cost Pricing

Columns 8-13 of Table 6 show the computation of the amounts that would be needed under higher pricing at the state's colleges and universities for the student population being considered here. As noted earlier, we are confining the consideration of pricing options to full-time equivalent (FTE) undergraduates, and further restrict it to California residents, who actually make up 92 percent of the undergraduate enrollment in public institutions according to the Student Resource Survey data. Out-of-state students are omitted not only to simplify computations, but because these students are already paying a substantially higher charge which would not change greatly under the formulae presented here.

Full-cost pricing should include the cost of instruction and some share of capital cost as well (see Section 2). For cost of instruction we used the full-cost figures developed by the Coordinating Council for Higher Education in July, 1972.

Accounting practice in colleges and universities does not recognize amortization or depreciation of capital facilities -- a puzzling and regretable departure from general practice -- which makes cost accounting very difficult. Rather, buildings are treated as gifts from government or donors. We considered it important to recognize capital cost, so included in our full-cost price an estimated $150 per year per student for buildings. This amount is based on the average of state expenditures for construction over the past six years, divided by current enrollment.

The new revenue produced under full-cost pricing at public institutions, again using primarily 1971-72 data, would be as follows:

	Full Price Student Charge	Existing Student Charge	Increase in S.C.	In-State FTE or ADA Students	Increased Revenue
U of Calif.	$2,679	$638	$2,041	65,300	$133,277,000
State University & Colleges	$2,209	$162	$2,047	185,103	$378,906,000
Community Colleges	$1,040	0	$1,040	526,058	$547,100,000
					$1,059,283,000

Column 10 of Table 6 shows that, under full-cost pricing, $1,189 million would be required to meet the computed need of all undergraduates who qualify for aid. This is an increase of $787 million over need at public **institutions** under existing pricing. Thus full-cost pricing would generate $1,059 million in new revenue, and $787 million in new financial aid obligations, for a net increase of revenues available to the state of $272 million. These figures assume, of course, that the state will continue the present level of funding for other-than-instructional purposes, and that the existing aid shortfall of students ($184 million at public institutions) in public institutions will be made up regardless of the pricing plan selected. (For the benefit of the quick reader, the figures in the above and following discussion are summarized in tabular form below.)

A part of this projected $272 million in new revenue could be used to make up the existing aid deficit, and part to provide additional aid to students attending independent institutions. The amount would be determined by the degree to which the state chooses to equalize the difference between student charges at public and private institutions. Our computations show that the cumulative current need of students at private institutions is $94 million, against which they receive $33 million in grants, (plus the private institutions' share of $110 million in federal guaranteed loans, on which no breakdown is available), leaving a need gap of $61 million (less the amount of federally backed loans).

Remaining new revenues could be utilized to increase support for services which are not likely to be user-funded (basic research, innovations in instruction and services, remedial programs), to finance additional construction, to forward-fund increases in items which are part of instructional costs (faculty positions and salaries, libraries); or of course to reduce state appropriations and taxes. A proposal in Wisconsin, where full-cost pricing is under consideration, is to grant minimum $500 awards to all students, which has the effect, of course, of reducing student charges by $500; such a step in California would consume more than the remainder of revenue increases.

A factor that must be kept in mind in evaluating the effect of a full-cost pricing/full-need-grant program is the net change in the total number of students in the system. Some upper income students who do not qualify for aid may leave the system; probably a larger number of lower income students would enter or continue in the system, for a net increase in enrollment entirely at the high-need end of the spectrum. We have no valid way of estimating the number, but we can report that Wisconsin, with about one-fifth the population of California, estimated that from 3,000 to 6,000 new students would be brought into the system by its proposed program. If California were to attract into its system 25,000 new students, all in the full-need range, it would cost the state some $70 million in added aid funds.

Another item that must be considered in the kind of program outlined is the cost of administration of an enlarged student aid program. Efficient state-aid programs are now run for about three percent of the amount administered. But this proportion is at the state level only; some additional cost would undoubtedly be experienced at the institutional level. If we assume that the increase in student aid resulting from a full-cost pricing program could total over $850 million, and the administrative costs would run to five percent at the state and local levels combined, then about $43 million of the new revenues would have to be earmarked for this purpose.

Before summarizing the estimated dollar consequences of this plan, we would like to reiterate and amplify some of the arguments against full-cost pricing. First is the danger that increased charges will not be met by increased aid, thus driving low-income people from the system. Second is the concern that it leads to channeling funds through students, and may result in a net decrease in funds going to institutions. Colleges and universities would not be able to plan as intelligently and to staff themselves adequately if their income is subject to the whims of students who come and go. Another argument against this plan is that it has never been tried, and may have flaws that no one has anticipated. The only response to this concern is that any high cost pricing plan should be phased in over several years so that flaws can be detected.

Perhaps the most telling argument relates to equity, in a different sense than open access. Under full-cost pricing, those in the higher income brackets, who are likely to be paying higher subsidies to post-secondary education through taxes, would be called upon to pay a high student charge, while those who may be paying less in taxes are relieved of paying in full for their education. This "double taxation" argument is troublesome and politically significant, since those who would be hurt by it tend to be articulate members of the electorate. One of the few steps that can be taken to cushion the effect of high student charges on the upper income population is to provide an openly available program of low-cost loans, as discussed in Section 4, and again below as an element in the student aid package.

Following is a summary of the fiscal consequences of a full-cost pricing model for California resident undergraduates, in millions of dollars.

	Increased State Income	Increased State Expenditures	Net Available To State
Revenue from higher tuition	$1,059 Million		
Increased student need grants at public institutions		$787 Million	
Administrative cost of grants at 5%		39	
	$1,059	$826	$233 Million
Cost of aid for 25,000 new students		70	
Administrative cost on above at 5%		3	
	$1,059	$899	$160 Million
Cost of aid for private institution students if included		61	
Administrative cost on above at 5%		2	
	$1,059	$962	
Amount available for new programs, etc.			$ 97 Million

Some Cautions in Interpretation

The analysis of the revenue-expenditure relationship for full-cost pricing above, and for the partial-cost pricing analysis that follows, has implicit in it several assumptions. These are:

1. Parental Contribution - As noted earlier, parents will be expected to contribute towards college costs from their income and assets.

2. Students are expected to contribute $600 to their own education costs from summer employment earnings.

3. Full-cost pricing will not cause a redistribution of students among two and four year institutions, public and private institutions, or in-state, out-of-state institutions.

Standard need analysis is usually performed from 2 to 8 months before the beginning of a new school year. It operates from a fairly strict base that allows families a moderate standard of living and then expects that a substantial part of disposable income over that moderate standard will be available for college costs. Every study that has been conducted on parental contributions has identified the same pattern, i.e. low income families (under $6,000) contribute more than they are expected to, middle income families (up to around $12,000) will contribute about the expected amount, and higher income families substantially under-contribute. Data gathered for the California SRS study validated the existence of this pattern.

The reasons underlying the pattern are complex. First, there does seem to be a growing unwillingness on the part of parents to alter their living style to finance college. Although parental unwillingness is a consideration, it seems to be less important than one other factor: need analysis assumes parental contribution is the first and most basic source of a student's support. In practice, many parents seem to contribute that amount needed to fill the gap between the student's resources and the cost of college, and student resources are higher than has previously been thought. The SRS found that 56.7% of all students in the sample reported working during the school year. Their average contribution to the cost of their education -- earnings plus savings -- was over $800. If a fair number of these students also borrow, it would take a relatively small parental contribution to meet the student's total budget needs.

The SRS study identified another pattern important to this analysis: within the same income range, the parental contribution increased as student charges increased. For the $12,000 to $14,999 income range, the average parental contribution for Community College students was $190; for students in the University of California, $750; and for students at independent institutions, $970. (The CSS expectation at all institutions was $1,559.) Although parental contribution rises with student charges, we do not know the degree to which parental unwillingness to contribute more dollars (or student unwillingness to accept the money) has influenced the student choice of a less expensive institution.

Partial-Cost Pricing

A compromise position between the present policy and full-cost pricing is one which sets student charges at some large fraction of full cost. This is essentially a conglomerate model, with high student charges, in which most institutional support comes from (or through) students, and a smaller part through direct appropriations to institutions. To illustrate the cost effects of the model we have assumed here a tuition equal to 75 percent of average current undergraduate instructional cost in each segment. The effects and arguments for such an approach closely parallel those for full-cost pricing, and will not be repeated here.

The effect of the plan on revenues would be as follows:

	New Student Charge at ¾ Current cost of Instr.	Existing Student Charge	Increase in Student Charge	Number of In-State Students	Increased Revenue
U of Calif.	$1,897	$638	$1,259	65,300	$ 82,213
State University & Colleges	$1,544	$162	$1,382	185,103	$255,812
Community Colleges	$ 668	0	$ 668	526,058	$351,407
					$689,432

Table 6 also computes the new need requirement, which comes to an increase of $476 million over present public institution levels. Thus the three-fourths cost model would generate $689 million in additional income, for a net of $213 million in new state funds.

Aid to private institution students, if made part of the plan, would remain at $61 million. We might still see 25,000 new students drawn into the system, since full aid is part of the plan, but the amount of their grants would be slightly lower than in the full cost example, since the student charge is lower by an average of a little over $500. Total grant expense for this number of new students would be $58 million.

A summary of the effect of the three-fourths of full current cost pricing follows:

	Increased State Income	Increased State Expenditure	Net Available To State
Revenue from higher tuition	$689 Million		
Increased student need grants at public institutions		$476 Million	
Administration cost of grants at 5%		24	
	$689	$500	$189 Million
Cost of aid for 25,000 new students		58	
Administrative cost on above at 5%		3	
	$689	$561	$128 Million
Cost of aid for private institution students if included		61	
Administrative cost on above at 5%		3	
	$689	$625	
Amount available for new programs, etc.			$ 64 Million

SUMMARY OF EFFECTS OF ALTERNATE PRICING SCHEDULES

Following is a comparative summary of various pricing levels, including 25% and 50% of full cost pricing for which detailed computations are not shown:

	Increased State Income	Increased State Expenditure	Net Available To State
Full Cost	$1,059 million	$963 million	$96 million
75% of Full Cost	689 "	625 "	64 "
50% of " "	435 "	394 "	41 "
25% of " "	182 "	225 "	Minus 43 "

Zero Student Charges

The effect of widening access by lowering student charges can best be demonstrated by costing out the extreme case -- lowering charges to zero at all public institutions -- with the state absorbing all costs except minor fees. In this example we again confine attention to FTE undergraduate students.

Loss of revenue to the state would simply be the total amount of student charges now paid in public institutions, about $72 million. This loss could be offset by reductions in state aid, since lowered student charges reduce some of the need. But state aid for students in public institutions at present amounts to only some $14 million, so even if it were entirely eliminated and credited against the $72 million loss in revenue, the state would still be required to produce some $58 million in new institutional subsidies.

Variable Pricing

Whatever the level of student charges (above zero) chosen by the state, it is possible to adjust the charge upward or downward at each student level, most likely to parallel changes in instructional costs at different levels, while keeping the weighted average student charge at the level selected. Such a shift to variable pricing then has little effect on the total financial pattern at the state level, though it will have effects on entry and retention of students at various levels as discussed in Section 3. It becomes more a matter of educational and social philosophy than of financial policy. Thus we leave the matter without concrete illustration in the California setting, but urge its exploration.

If variable pricing by level is seen as a worthwhile arrangement, we would further urge the state to examine the value of equalizing charges by level across all public institutions in the state. Under such a plan, the lower division charges at the Univ. of California and C.S.U.C. would be the same as those at the community colleges and upper division charges would be the same at all four year institutions (we leave aside graduate charges, since the topic has become complicated by a tendency to raise costs in expensive professional programs). The argument favoring uniform pricing in all institutions is that all students should have access to the same quality of education, wherever they enter the state public system, and that arbitrary differentials in student charges tend to perpetuate quality differentials. The principal argument against such a course of action, of course, is that the different institutions do different things, should differ in quality unless all are to be pulled down to a common denominator, and require different levels of support.

A factor that must be kept in mind in assessing the effects of differential pricing by level is the likelihood that growth in the next decade will be disproportionately heavy in the community colleges. This increasing lower-division enrollment will have to be taken into account in balancing out charges at other levels to arrive at the desired total income.

The Effect of Federal Basic Grants

The 1972 federal higher education legislation provides for a variety of programs to assist higher education. Until guidelines are adopted and funds are appropriated it is hard to determine just what effects the complex provisions of the new bill will have. Yet it is possible to make a distinction between the impact of institutional and student aid.

Most of the institutional programs will provide funds to pay for the kinds of things the states are already supporting -- general operations, libraries, equipment, etc. New funds will permit improvements at the institutions, reductions in state expenditures, or both. But the major financial decisions that will be put before the states have to do with how much they will want to spend for various purposes, not decisions regarding the whole fabric of financing.

The student aid provisions, by contrast, will have effects on pricing policy and state allocations of grants and loans. The new loan provisions, and the ways in which they can be employed to operate a student loan program at very small cost to the state, are discussed in Section 4. Existing federal aid programs are extended and enlarged, and funds are authorized to match dollar-for-dollar the amounts by which states will increase their own need-based aid programs. All of these will influence the amount of money available for student support, but it is the basic grant provision that will have the most direct effect on pricing policy.

Quite simply, the basic grant program, when and if fully funded, will provide $1,400 per year to each post-secondary student, less the amount his family is expected to contribute under some standard formula; or one-half of the cost of attending college, whichever is less.

To indicate the importance of this provision to California, note that Table 6 shows that there are over 181,000 in-state undergraduate students who would qualify for the full

$1,400 since they are in a family income category that calls for no parental contribution. In addition, nearly 450,000 students would qualify for partial federal aid, relieving the state of some of its responsibility. But it is the 181,000 entitled to full aid who are most important here.

Under the present pricing structure, a community college student living at home will incur college-going costs of $1,490 in maintenance expense and no student charges. He would be entitled to only half this amount -- $745 -- instead of the $1,400 which the basic grant program provides, a loss of $655. If he were living away from home, as most students now do, his budget would be $2,030 and a maximum basic grant of $1,015 -- $385 below the full entitlement. Table 7 computes the amounts that would be lost for low income students under a fully-funded basic grant program with the present student charges. Student distribution figures are arrived at by applying the SRS patterns of residency and dependency to the total number of students in the subject family income bracket.

Table 7

LOSSES UNDER FEDERAL BASIC GRANT PROGRAM
BY STUDENTS FROM FAMILIES WITH INCOMES BELOW $6000/YR.

(1) Institution	(2) Residence	(3) Number of Students	(4) Annual Student Budget Including Stu. Charges	(5) Maximum Basic Grant [(4)÷2] or 1400	(6) Loss per Student from Grant Entitlement [$1400 - (5)]	(7) Aggregate Loss for California Students [(3) × (6)]
Univ. of Calif.	home	1,231	$2,078	$1,039	$361	$ 444,000
Univ. of Calif.	away dependent	7,276	2,748	1,374	26	189,000
Univ. of Calif.	away independ.	1,419	3,018	1,400	—	—
State U & Colleges	home	10,301	1,612	806	594	6,119,000
State U & Colleges	away dependent	22,468	2,242	1,121	279	6,269,000
State U & Colleges	away independ.	6,103	3,002	1,400	—	—
Comm. College	home	79,408	1,490	745	655	52,012,000
Comm. College	away dependent	40,300	2,030	1,015	385	15,516,000
Comm. College	away independ.	12,859	2,360	1,180	220	2,829,000
TOTAL LOSS OF ENTITLEMENTS FOR IN-STATE STUDENTS BELOW $6,000 PER YEAR FAMILY INCOME						$83,378,000

It is not intended that the Table 7 computation show with precision the amount that would be lost if the present pricing pattern were to be continued under a fully funded federal basic grant program. Rather it is an indication of order of magnitude. It should be noted that, in addition to the above students from low income families, there would be students in the next higher income brackets who would lose out. The total lost would undoubtedly exceed $100 million for in-state undergraduates alone. If the state is to assure that all needy students receive assistance, this $100 million represents a net loss to its treasury.

To protect against any loss from underpricing, with present maintenance budgets, it would be necessary to raise the lowest student charge in public institutions to $1,360 so that home-resident students would show total budgets of $2,800. Rising maintenance costs will undoubtedly take care of part of the increase, and it seems unlikely that any state would go to such a minimum charge in the near future. But these computations do indicate a likely trend toward higher student charges as a consequence of the new legislation in order to shift more of the burden of post-secondary education to the federal government.

The Financial Aid Package

Section 3 delineated the principal forms of student aid: 1) grants and scholarships, 2) work-study, and 3) loans. The first two call for cash outlays if the state is to make up for shortfalls in existing funding. These shortfalls now amount to some $245 million, as reported above, and state aid expenditures could run as high as nearly $1 billion under full-cost pricing.

Section 4 described some student loan plan alternatives open to California. It should be noted that these loan plans would not require state appropriations in amounts anywhere close to the sum to be loaned. Rather the capital is generated from other sources, and the state is called upon to cover only administrative and start-up costs. The State of New York, for example, which already has a state loan mechanism in operation, estimates a first year cost of $300,000 for its very large loan program.

If the student aid package is made up of a mix of grants, work-study and loans, the state can reduce its outlay by the aggregate amount of loans included in need-based packages. Determination of the amount of loan each needy student is asked to assume is not simply a matter of how much the state wants to cut its outlay, of course, but depends on the amount a student can reasonably be asked to borrow. Present indebtedness and obligations, culture-based attitudes toward borrowing, and potential earning power are factors that must be considered in balancing the aid package. Financial aid officers must have freedom to adapt loan packages to individual needs, within broad guidelines.

One attractive student aid formula is to begin building the annual package with a "self-help" element of $1,000 or $1,500, to consist of earnings and loans in whatever mix the student prefers. Under such a plan the student has a stake in his education. Furthermore, it tends to reserve cash grants, which are always short of full need, for those who need them most, since it has the effect of requiring middle income students, who qualify marginally for aid under the need formula, to borrow and work instead of relying on grants.

The privilege of borrowing need not be held to the self-help total, of course. Permitting students who do not qualify under need formulas to borrow would be an essential provision if student charges are to be substantially increased.

The Voucher or Portable Grant

The idea of providing students with chits that they can cash in for an education wherever they please has a great deal of appeal to reformers who would like to see institutions more responsive to learner needs. As discussed in Section 3, for our purposes vouchers represent a system of portable grants, usable at many or any institutions, depending on the specifications. If a statewide public system has consistent guidelines for student financial aid, that state has, in effect, a voucher system for public institutions, since the student is free to attend anyplace he chooses (and qualifies), with the same aid amount wherever he goes. The California State Scholarships closely resemble vouchers for qualifying students.

A voucher system is not really a financing option, but a way of channeling funds (and students) once financing patterns are determined. It can function with any pricing plan, and with any aid level.

There are two major classes of variants of a voucher plan: Where the voucher will apply and how it will vary with costs. The "where" question has three principal responses:

1. The voucher is usable at any public institution. As mentioned, this is really the same thing as having a consistent statewide aid policy in public institutions.

2. The voucher is usable at either public or private institutions in the state. The prior question is, does the

state wish to subsidize private education, presumably in order to utilize existing private facilities instead of building additional public ones. If the state decides to subsidize privates, a voucher plan is one convenient device to channel the funds.

3. The voucher is usable anywhere. Here one possible purpose is to make it possible for more students to study outside the state, thus relieving pressure for expansion within the state.

Variation in the level of voucher payments is an important factor only under conditions 2. and 3. above, since total attendance costs usually do not vary greatly among public institutions. The major options are:

1. A voucher based on average tuition and costs at public institutions. Here the award is equal to (or some fraction of) these costs, usually reduced by the amount of expected family contribution and student earnings. If the student attends a public institution, his needs are largely met. If he chooses to attend a higher cost private institution, he will have to come up with the student charge differential himself through earnings, borrowing or scrimping. This type of voucher is often associated with full-cost pricing, with the entire state subsidy of instructional cost channeled through students.

2. Another option is the "blank check" model, which would provide for maintenance costs plus actual tuition at any institution chosen, again usually reduced by the amount of expected family contributions and earnings. Such a plan provides maximum freedom of choice, but leads to the danger of private institutions raising their tuition charges unreasonably. Essentially it requires more faith in the efficiency and price-equitability of private institutions than many legislators are now willing to accept.

Again, a voucher system is simply one way of carrying out the distribution of funds once certain financing, pricing, private institution support, and aid decisions are made.

Effects on Private Institutions

This report has dealt primarily with the public postsecondary system, because this is the only instrument for educating its citizens for which the state government is immediately responsible. Clearly, any decision affecting the public sector will have an influence on most private institutions. It is the two sectors taken together that make up the total system serving the population.

It is hardly necessary to point out that pricing policy, and the state's decisions concerning the amount and portability of student aid, will have profound impact on the private sector. If tuitions in public institutions rise, the privates are in an improved competitive position. If state financial aid is widely available to students in private institutions, either through portable grants or by extension of the existing state scholarship program, the private institutions will be relieved of part of their financial aid burden. These steps would do much to insure the strength and survival of the private sector.

APPENDIX 1: THE FEDERAL ROLE

In order to assess the future role of the federal government in financing post-secondary education we interviewed a number of government officials and educational leaders in Washington, D.C., and analyzed federal legislation and programs. From this exercise one thing became clear: The "Education Amendments of 1972", the higher education bill passed by the Congress this spring and signed by President Nixon on June 23rd, is the most significant legislation of its type ever enacted. The future federal role is almost entirely bound up in its provisions. But before it can have important impact on state educational systems, two things must happen: Guidelines must be developed, and funds must be appropriated. The former is underway as this report is completed; the latter remains for Congressional action. The following summary of expected effects concentrates on segments of the legislation that are likely to have major significance for the State of California:

1. State higher education commissions will grow in importance. The new legislation calls for increased emphasis on statewide planning.

2. Beneficiaries of federal dollars will have to demonstrate that these funds have been effectively used before additional amounts will be provided.

3. Although the total amounts authorized are very large, the sums earmarked for institutions (as contrasted with funds for students) are not going to make much real difference.

4. The major emphasis of this new legislation is on student support. The $1400 basic grant to all students qualifying under need formulae reverses the institutional support emphasis of recent decades. Together with the extension of existing grant programs for the disadvantaged, this basic grant means that needy students may be entitled to federal funds of up to $2400. The effect of such support is considered in the report.

5. New institutional support will be directed primarily toward occupational education, and those developing institutions enrolling sizeable numbers of disadvantaged students.

6. Matching funds of up to 50% are provided to supplement state student grant programs.

7. Support is provided for state loan programs (see Chapter 4 of the body of this report).

8. Special provisions authorize support for Vietnam veterans and supplements for institutions enrolling them.

9. The bill is so encompassing that many flaws have been perceived, and major changes can be expected in the next few years.

10. Money authorizations in the bill total $16 to $19 billion for the three fiscal years ending in 1975. This contrasts with appropriations for higher education totalling $1.3 billion last year. It is highly unlikely that the bill will be fully funded. If there is a shortfall, as seems almost certain in the first year, the amount of the individual basic student grants (4. above) will be cut in accordance with a fixed formula.

In summary, it is unlikely that the pattern of federal contributions to higher education institutions will change markedly. The big change, which will be felt when funding levels begin to approach the authorization levels in the law, will be a large increase in direct support to students who can demonstrate financial need.

APPENDIX 2: THEORETICAL ISSUES OF COST-BENEFIT ANALYSIS

In this time of financial constraint for higher education, cost-benefit analysis has gained considerable importance as a method of more rational allocation of the nation's resources. Its primary goal is to evaluate as precisely as possible the benefits received from higher education (or any other public service) by various sectors of society--students, parents, state, local and federal governments--and correspondingly, the costs which each of these sectors actually bears.

Because of its particular theoretical origins, cost-benefit analysis is most exact when dealing with issues quantifiable in economic terms. It is dependent, therefore, upon a clearly understood set of goals, and a comparability of items which are being quantified. For example, Mary Bowman in the "Economics of Education"[1] has pointed out that in speaking of all higher education, one must generally assume that people with different skills (engineer, economist, historian, artist) tend to be interchangeable, as educated people, within the economy--and that therefore there is a way to speak of the benefits which society and these individuals gain by being educated. An example of such benefits would be higher lifetime income for the individual and higher tax receipts for the various governmental units.

However, cost-benefit analysis, particularly when it concerns itself with education, must also consider less easily quantifiable issues than lifetime income, and in fact it must treat issues that cannot be consistently related to higher education. In order to do this most rigorously, several economists have tried to develop separate categories in order to set off from one another those areas which remain more quantifiable (and also have a clear economic relationship to higher education) from those areas which do not. It is for this reason that in the following section we will speak of both direct and indirect costs and benefits.

---

[1] Mary J. Bowman, "Economics of Education" in FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT, M.D. Orwid (ed.), The American College Testing Program: Iowa City, Iowa, 1971. p.66
She also points out that cost-benefit analysis assumes that conditions under which you base your costs will remain substantially the same, for example, if you assert that an engineer makes an average of $12,000 per year, you must be quite certain that you can depend on that salary outcome and the availability of a position if the state asks that he pay for his engineering education.

Direct costs and direct benefits tend to be those characteristics of higher education which can be realized in quantifiable monetary terms (in short, through money) and which can be directly attributed to a person either pursuing or completing some level of higher education. Indirect costs and benefits, on the other hand, have a less immediate relationship to higher education though they may in fact be more important to the individual or to society than those we call direct.

In what follows, we will try to show that the importance of those distinctions and of this analysis lies in the additional clarity which they may give a decision maker by providing an approximation of known costs and results for services (like higher education),which in turn can yield an approximation of the financial and social burden being placed on various sectors.

COSTS

Within the current literature, the question of what should be considered the cost for (and thus the burden of) higher education has received considerable attention. Most authors agree that those items attributable to operating and capital costs for institutions of higher education and the educational fees and personal maintenance costs of the student are definitely costs of higher education. However, considerable debate has ensued over whether or not income foregone by a student while attending school can be considered a cost to him for his education. We shall treat this issue in some detail in later sections of this appendix, but for now will consider it as an indirect cost.

Most authors have as well agreed that two key sectors incurring costs for higher education--the individual student/parent combination (private sector),[2] and society/governmental units

---

[2] The recent 18 year old majority rule on the national level may have significant effect on the view of student/parent as one combination for the purposes of higher education. It appears however, that for the near future, parental resources will continue to be considered when evaluating student financial need.

(social sector). In turn there is general agreement on those costs which are direct and those which are indirect.[3]

A. The costs accruing to the individual student/parent combination for higher education are thus:

   1. Direct costs consisting of actual cash outlay for:

      a. college tuition and fees
      b. books and supplies
      c. additional room, board, and transportation expenses. (These are costs which are over and above what a student might reasonably incur were he living at home instead of at school, or for the commuting student--the commuting expenses which he incurs.)[4]

   2. In addition to these direct costs requiring actual cash outlay, higher education also requires that the student/parent combination bear indirect costs (also known as opportunity costs) which may not require an expenditure of money but which amount to money sacrificed. These are:

      a. foregone student income. (The income that a student would have obtained had he worked instead of attending school.)[5]

      b. foregone receipts from alternate uses of the money expended for higher education. (When parents bear the primary burden for supporting their offspring while pursuing education, the parents bear the burden of foregone receipts.)

---

[3] This approach is discussed in the following works:
Roger E. Bolton, "The Economics and Public Financing of Higher Education: An Overview" in THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES, A compendium of papers for the Joint Economic Commitee, Congress of the United States. Washington, D.C.: USGPO, 1969. p.27

W. Lee Hansen and Burton Weisbrod, BENEFITS, COSTS AND FINANCE OF PUBLIC HIGHER EDUCATION, Chicago: Markham Publishing Company, 1969. p.42

Theodore Schultz, "Resources for Higher Education: An Economist's View" in FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT, p.20

[4] See Howard R. Bowen, "Who Pays the Higher Education Bill" in FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT, p.284

Hansen and Weisbrod, IBID, p.42

B. The other major sector bearing costs, the social sector, has direct and indirect costs as follows:

  1. Direct costs consisting of:

    a. governmental allocations for the operating expenses of institutions of higher education.[6]

    b. governmental allocations for capital construction in institutions of higher education.

    c. philanthropic contributions.

  2. The indirect costs include:

    a. the loss of tax revenue from the student's foregone income.

    b. the loss of tax revenue from foregone government investments in other more financially rewarding sectors of the society. (Each government must decide which area of its responsibility it can adequately help. By giving money to higher education, it often must thereby choose not to give it to some other sector or service (such as health care, environmental control, welfare etc.) Likewise the funds could be invested in a more remunerative enterprise like power companies or utilities which conceivably repay the monies expended on them.)

BENEFITS

As noted previously, in the same way that costs are attributable to both the private and social sector, so too are benefits. However, in considering benefits, the quantifiable range of options is much less precise than that possible with costs. Because the benefits of education are seldom immediate, and furthermore, except for routinized steps on a salary scale, seldom directly understandable in the form of money received, the evaluation of these benefits has much to do with personal taste and the range of human possibilities. We can say, however, that given the current opinions in society today, certain benefits for the private and the social sector are most likely to occur as a consequence of an individual pursuing higher education.

---

[6] For a description of this analysis see:
Bowen, IBID, p.284
Hansen and Weisbrod, IBID, p.42-44

A. The benefits accruing to the individual/parent combination are thus:

1. The direct benefit of increased lifetime earnings (These increased earnings are presumably due to the educated **person's** greater productivity as a result of his education. However, despite the intuitive attractiveness of this proposition, there has been very little agreement on the actual dollar difference in lifetime income between the person with a college degree and the one without. Estimates of the difference have ranged from $208,000-$138,000 over a lifetime (H.P. Miller-1962), to $89,000 directly attributable to education, to the actual present value of increased income when viewed by the student as an investment--around $20,000.)[7]

2. The private indirect benefits which, like indirect costs, are not directly monetary, but are often important, include:

   a. the increased freedom of choice in job selection
   b. generally higher social status and mobility
   c. a greater chance for participation in public life--since the skills of a person with a higher education often suit him for life in the public arena
   d. the possibility for increased leisure

---

[7] Bolton, IBID, p.28
Hansen and Weisbrod, IBID, p.18
H.P. Miller, "Income and Education: Does Education Pay Off?" in ECONOMICS OF HIGHER EDUCATION, S.J. Mushkin (ed.) U.S. Department of HEW, Washington, D.C.: USGPO, 1962. p.140
T. Schultz, THE ECONOMIC VALUE OF EDUCATION, New York: Columbia University Press, 1963. p.57-58

It should be pointed out that the increase in lifetime earnings, while on the average true for all college graduates, has wide variations. For example in 1959 while 50% of all male high school graduates had incomes exceeding $6,000 per year, 31% of all male college graduates had an annual income less than $6,000. Finally, it is worth noting that not all higher education is clearly so economically rewarding: "In the United States presently, specific advanced schooling, that is, in law, agriculture, business, engineering, medicine, dentistry, nutrition and technology...are predominantly investments in productive capabilities that effect earnings and accrue to the persons who acquire the schooling." (Schultz)

e. the enjoyment of the college experience. (This particular benefit, also called a "consumption benefit", is often raised as a reason for not providing more subsidy to expensive private institutions which may not necessarily offer more educational quality but rather more luxurious surroundings.)[8]

B. The benefits accruing to the social sector because an individual has undertaken higher education consist of:

1. Direct benefits in the form of monetary gain:

   a. from increased tax revenue from the educated citizen as a result of his higher income.
   b. from increased tax revenues from other sources, primarily business and other persons due to the productivity gains which educated individuals provide for everyone.[9]

2. Indirect benefits, which though not necessarily pecuniary in nature, may constitute the most vital and important benefits. They include:

   a. improved quality of citizenship and community responsibility[10]
   b. improved equality of opportunity[11]
   c. the tendency of education to reduce welfare and other transfer payments such as unemployment compensation. (Both welfare and unemployment compensation, at present, are found predominantly among the less well educated segments of the population.)[12]

---

[8] See Bolton, IBID, p.32

[9] Bowman has lumped together both of the above benefits and called them "The general increase in national income (or national economic growth) attributable to education." IBID. Several studies have attempted to measure the effect of schooling on economic growth. E.F. Denison maintains that schooling has a major effect on human productivity which in turn is a major source of economic growth. He estimates that 21% of the economic growth of the United States between 1929 and 1957 is attributable to schooling. See E.F. Denison, "The Sources of Economic Growth in the United States and the Alternatives Before Us," a paper for the Committee for Economic Development, New York, 1962. p.251-253.

[10] Hansen and Weisbrod, IBID, p.37
Bolton, IBID, p.38

[11] Bowen, IBID, p.284

[12] Bowen, "Finance and the Aims of American Higher Education", in FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT., p.168

d. the favorable effect of education on the quality of life--due in part to the research and discovery which are attributable to investigations undertaken by institutions of higher education[13]

e. the discovery of talent which otherwise might not have appeared were it not for the availability of higher education[14]

THE GENERAL DEBATE REGARDING SOCIAL OR INDIVIDUAL BENEFITS

A major issue dividing proponents of cost-benefit analysis is whether the society or the individual obtains greater benefits from higher education, and accordingly, who should bear the greater cost.

One group of authors claim that the benefits from higher education devolve primarily upon the individual in the form of both higher earnings and other non-monetary rewards. On this basis, they maintain that the subsidy to education provided by a governmental unit (local, state, or federal) in the form of tax forgiveness, financial aid or low tuition should be only that required to repay the benefits which the government gains from having educated individuals among its citizenry.[15]

---

[13] Denison, IBID, p.251
Bolton, IBID, p.35 "One reason the benefits (of research) are external to the educated people responsible is that scientific discoveries of the most basic kind are not patentable, so that private profit cannot be protected..."

[14] Schultz, IBID, p.18
"This activity has important social benefits. In attempting instruction, groups of faculty and students together discover talents, but there is no practical way of compensating the students, especially the ones who turned out to have no talent for their services in the endeavor. Subsidies are thus necessary to induce students to "try out" college so that society can uncover the talent of the ones who would not otherwise go to college. It may be that many of the discovered students will earn enough later in life to pay the full cost of their education, and enough that society feels they should pay the full cost....this has implications for a subsidy plan. Perhaps the freshman year should be more highly subsidized than later years. The problem may be viewed as one of reducing the risk to prospective students of spending money and time at college,... Society may well gain more in uncovering hidden talent than it loses in wasting resources on those who had no talent to be uncovered."

One of those strongly supporting this position is Milton Friedman, who views individuals as the principal beneficiaries of higher education in the form of undeniable increases in lifetime earnings and other personal benefits. While recognizing the benefits which society at large receives from all education, he feels that many of these gains are realized already in secondary school, so that it is mainly the individual student who benefits from further schooling. Therefore, Friedman asserts that the individual student, or his parent, should pay for his own higher education, either out of current or future earnings:..."every youngster, regardless of his parent's income, social position, residence, or race, (should) have the opportunity to get higher schooling--provided he is willing to pay for it either currently or out of the higher income the schooling will enable him to earn."[16]

Similarly, Theodore Schultz, while admitting several problems in evaluating the individual monetary benefits to be derived from education, asserts that these benefits are substantial. He claims, however, that they are misunderstood as long as the true cost of education is not known by the student:..."Academic entrepreneurship should be given a vastly better opportunity than is presently possible to allocate resources efficiently...the ideal price to students...should be neither more nor less than the real cost of producing these services."[17] Schultz claims that were education to be treated more directly as an investment in "human capital", decisions made by students regarding educational opportunities (such as the proper school, the proper degree program, and the number of years of education) would be more rationally made and likewise that the expenditure of the student's time and the nation's resources would be more fully appreciated. The implication of this position, for him, is that the present opportunities for students to finance their own studies, through loan markets, for example, will have to vastly improve--and that better information about the quality and price of higher education will have to be made available as well.

---

[15] Bolton, IBID, p.23 The position is often put forth that instead of the society repaying the benefits which it receives from the educated persons, it is really inducing persons to engage in more education than they normally would undertake since they do not recover all the benefits from it. In short, "the traditional subsidy (in the form of low tuition) is best seen as a bribe...if the public does not commit itself in advance to pay part of the costs, it will not be able to get the benefits." Without some sort of subsidy then, it is feared that "individuals will underinvest in education--".

[16] M. Friedman, "The Higher Schooling in America," PUBLIC INTEREST, Spring 1968.

Lest it be misunderstood, these authors assert that there may indeed be substantial social benefits (for Friedman, improved citizenship and for Schultz, discovery of talent)[18] but that these benefits are hard to quantify and thus the current social subsidy to individuals (in the form of low tuition and other forms of reduced costs to students for their education) lacks adequate grounding in the economics of education.

On the basis of these positions, both men would support the raising of such educational costs as tuition to a level which more adequately reflects the actual cost of instruction. Their rationale is that only with full-cost tuition will the student have an adequate idea of the real cost of his education. And hence, knowing the real costs, he can then attempt to make a decision which treats education as an investment in himself. By analogy, however, if education is to be treated more strictly as an investment by the student, he must at the same time have sufficient opportunity for loans or comparable financial aid, just as other investment making organizations have. In the cases where a student was unable to obtain a loan on the private market (from banks, savings and loan associations, or credit unions) both authors would support the government opening up a capital market with generous provisions for loan qualifications.

In contrast to those who claim the primacy of private benefits from higher education, there are a number of authors who assert that it is society which benefits most from the presence of educated individuals--and therefore, that society ought to bear the burden of educating its citizens even if the benefits it receives are non-monetary in nature. Howard Bowen has given the most extensive taxonomy to date of the social benefits to be gained from education. He asserts that "...there are vast social benefits from higher education, and it is undoubtedly in the social interest to provide more instruction, research and public service than individuals or agencies would demand if they were required to pay the full cost."[19]

---

[17] Schultz, IBID, p.33

[18] See footnote 14.

[19] Bowen, "Finance and the Aims of Higher Education," p.169. These benefits include many already noted under "indirect social benefits" such as "Improving the allocation of labor; "...improving citizenship"..."Contributing new ideas which improve business or governmental efficiency"...

Bowen's main argument is that economists tend to underrate the beneficial character of education for the society, primarily because they are unable to measure it exactly. He asserts as well that society, rather than paying as much as is often supposed for education, has allowed a considerable burden to fall upon the student and his parents primarily in the form of foregone income. Despite the fact that the average tuition charge at most public universities and colleges averages only 10-20% of the cost of instruction, the student/parent combination in fact is bearing "three-fourths of the total cost" of the student's education when his foregone income is included in the reckoning.[20]

Not only must the student bear the burden of foregone income, but also, according to Bowen, given the current structure of resource allocation, he faces considerable difficulty in obtaining loans and finance capital. In addition, the lack of accurate public knowledge about the quality of educational institutions and the paucity of proper educational counseling makes it imperative that state, local, and federal governments extend themselves further to aid the educational enterprise. In short, the educational "consumer" alone is not in a position to make a rational choice which benefits both himself and the society. For Bowen, society should maintain and in fact take on more of the burden of financing higher education through a continuation of low tuition at public institutions (most importantly at lower division public institutions), and through increased student aid to help overcome the burden of foregone income.[21]

M.M. Chambers likewise believes that the public should take a greater part in the support of higher education. He, however, bases his argument on the Jeffersonian tradition of free public education as a responsibility of the state to its citizens: "The individual may benefit from higher education... but his private gains are far outweighed by the gains that concurrently accrue to the whole society...This is the basic argument for free tax-supported public higher education. Its benefits extend to every citizen...hence its costs should be equitably apportioned to all by means of a tax system adjusted to economic conditions. In short, higher education is essentially a public function and a public obligation--not a private privilege or a private caprice...it is too important to the public to be left in any large measure to the vagaries of an unregulated private pricing system."[22]

---

[20] Bowen, IBID, p.160

[21] Bowen, IBID, p. 165

[22] M.M. Chambers, "Higher Education: Who Pays? Who Gains?" in FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT. p. 167

Alice M. Rivlin, speaking primarily from the point of view of a Federal administrator, sees a necessity for increased federal support of higher education as a way of opening opportunities to lower income groups and as a potential means for a more equitable distribution of income to all.[23] The nation stands to gain many... "unmeasurable,...but nevertheless real, public benefits of higher education..." by providing further public subsidy. Such a subsidy would..." ensure greater production and consumption of higher education than would otherwise occur, that is to say it would extend further education to groups which have been previously excluded.[24] Since, as a recent study has indicated, "...the tendency for upper-income students to go to college is not much affected by the price of education while low-income students are far more sensitive to price," the Federal government can have a salutory effect on participation by supporting an educational aid structure such that the effective cost to low income students is minimal.[25]

---

[23] A powerful extension of Rivlin's understanding of the benefits of education has been made in a study for the Senate Select Committee on Equal Educational Opportunity, by Henry Levin of Stanford University. In the preface he notes that "An inadequate education for a substantial portion of the population not only handicaps those persons who are undereducated, but also burdens society with reduced national income and government revenue as well as increased costs of crime and welfare."

1. The failure to attain a minimum of high school completion among the population of males 25-34 years of age in 1969 was estimated to cost the Nation:
    - $237 billion in income over the lifetime of these men; and,
    - $71 billion in foregone government revenues of which about $47 billion would have been added to the Federal Treasury and $24 billion to the coffers of State and local governments.
2. In contrast, the **probable** costs of having provided a minimum of high school completion for this group of men was estimated to be about $40 billion.
    - Thus, the sacrifice in national income from inadequate education among 25-34-year-old males was about $200 billion greater than the investment required to alleviate this condition.
    - Each dollar of social investment for this purpose would have generated about $6 of national income over the lifetime of this group of men.
    - The government revenues generated by this investment would have exceeded government expenditures by over $30 billion.

Henry M. Levin, "The Costs to the Nation of Inadequate Education" A report to the SELECT COMMITTEE ON EQUAL EDUCATIONAL OPPORTUNITY, U.S. SENATE: USGPO, February 1972.

Rivlin asserts that, even if the benefits to society are difficult to quantify, it is important for the Federal government to play an active role in supporting higher education since no smaller units, namely local and state governments, are in a position to recover all the benefits from educating their own citizens; "Small geographical areas tend to underfund a public service whose benefits spill over into other geographical areas. Since educated people migrate, individual states and communities have less incentive to provide higher education..." Further, as she notes, a commitment to equal educational opportunity is expensive and usually requires a strong tax base. Many states have been unable or unwilling to undertake such a commitment.[26]

In some contrast to all of the preceeding positions, W. Lee Hansen and Burton Weisbrod, rather than taking sides on the individual or social benefits of higher education, have made an attempt at applying a cost-benefit analysis to the higher educational structures of various states--notably California. Using data for the year 1965 compiled by the California State Legislative Analyst's Office, they attempted to calculate the direct, monetary benefits and costs of higher education in California and the distribution of each. Their efforts were directed at isolating those benefits and costs which could be directly measured, and with much qualification, estimating the monetary magnitude of the indirect costs and benefits.[27]

---

[24] A.M. Rivlin and Jeffrey Weiss, "Social Goals and Federal Support of Higher Education--The Implications of Various Strategies," in THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES. p.549

[25] U.S. Department of Health, Education and Welfare, FEDERAL FINANCIAL SUPPORT FOR HIGHER EDUCATION. "The Rivlin Report", Washington, D.C.: USGPO. 1969 p.21

[26] Rivlin, "Social Goals and Federal Support of Higher Education--" p.553

[27] Their method has received criticism from several people, chief among them J. Pechman. See Pechman, "The Distributional Effects of Public Higher Education in California," THE JOURNAL OF HUMAN RESOURCES, Vol. 3, 1970. p. 361

Hansen and Weisbrod used the distribution of parental income levels in the three segments of public higher education in California and compared this to the average educational subsidy received by each person attending these institutions. They then calculated the average tax burden for each income level of families both with and without children in the public system. By comparing projected increased lifetime earnings from a college education, and the increased tax revenue to local, state, and federal governments, they were able to estimate the approximate total subsidy which was given by state and local governments to those attending public institutions of higher education and the burdens for supporting that subsidy.

Several tentative conclusions resulted from this California study: the present value of indirect social benefits (those non-monetary benefits accruing to society in general) would have to be..."three to five times the present value of taxes paid for each public college graduate (by that graduate)"... and "eight to twelve times...for those who attended college but didn't graduate," to monetarily justify the public expense.[28] In short, for 1965, the state and local governments of California contributed between $4,400 and $6,200 per male student for four years of college--they will have received from this same person in lifetime taxes an equivalent of approximately $1,000. They further sharpen this point by noting that, even when the tax contribution of the student's family during the period of his college attendance, his contribution to taxes while working in college, and the additional lifetime taxes he pays on account of income attributable to education are added together, the amount repaid to state and local governments falls short, on the average, of the educational subsidy received. Thus, the state and local governments, from this point of view, are paying a substantial amount for each person educated. It may in fact be that the advantages to a state of an educated citizenry is three to five times the amount that the state then receives from this student in additional taxes, however, Hansen and Weisbrod wish to suggest that there is a specific cost associated with the state's decision to educate its citizens in a certain manner.

Secondly, Hansen and Weisbrod found that relating the burden of taxes, increased income, and the different levels of state subsidy offered at various levels of education "Public subsidies for higher education in California tend to go disproportionately to students from relatively high income families..."[29] Not only did the highest educational subsidies go to university students who had on the average the highest parental income (and thus the greatest ability to pay) but the lowest state subsidy went tothe community colleges where average parental income (and thus the least ability to pay) was lowest. In addition, they found that almost 40% of the student age population received no subsidy whatsoever. This 40% included the substantial group of high school graduates who did not desire to invest in higher education and were thereby unable to take advantage of the state subsidy even though they payed for it indirectly. Hansen and Weisbrod suggest a possible proposal--that the state offer this group of people an equivalent grant..."for participation in a training or apprenticeship program outside the state's higher education system, for investment in a small business, or for some other use which--like higher education--would be regarded as an investment in future income."[30]

---

[28] Hansen and Weisbrod, IBID, p.59

[29] IBID, p. 84

Finally, based on their subsidy and tax analysis, Hansen and Weisbrod point out that; "Through the local, state, and federal tax systems many people other than students benefit financially from the increased incomes generally received by college educated persons. But because of the population mobility process, these benefits do not always accrue to the taxing unit that subsidizes the education. These circumstances--both migration and the presence of a federal system ..." which is progressively geared to income and nationally effective..."provide justification for increased federal support for higher education."[31]

It is important to point out that Hansen and Weisbrod concluded that a total cost-benefit picture of California could not be developed without understanding all other forms of public service (unemployment, welfare, police, fire, etc.) and that..."a broader analysis is needed of the distribution of the benefits from the full range of government programs." They assert however that their basic findings still hold true given that higher educational support represents..."one of California's major expenditure programs." They observe that in California with perhaps the widest enrollment access through its community colleges of any state in the nation, and with a progressive income tax, there was still regressivity in the allocation of the benefits of higher education to those who have borne the burden of financing that education.[32] It suggests that other states with less than these conditions, such as the lack of a graduated income tax, might well find an even more regressive pattern.[33]

---

[30] IBID.

[31] IBID.

Shortly after Hansen and Weisbrod's book appeared detailing the results of their California study, several authors attempted to refute their "key" conclusion that the effect of public subsidy to education in California was in fact regressive--the poor were paying for services which they seldom used and which in fact were being used by the middle and upper income groups. It should be noted that the results do not necessarily mean that the poor are paying for the rich overall (when one considers other services). It means, simply, that the lower income groups are receiving the smallest subsidy from the public higher educational system. If in fact a goal of the public higher educational system is to readjust the income distribution within the state, or barring that to not aggravate existing inequities --such an outcome (i.e. the lowest subsidy to the poor) would seem inconsistent.

Joseph Pechman of the Brookings Institution suggests that Hansen and Weisbrod's judgment of the California situation is hasty in that when the benefits of public higher education are considered over an entire income range, the lower income groups in fact receive more education benefits(dollar wise) than they pay out in taxes.[34] Pechman's results are derived by comparing the amount of total taxes dedicated to higher education with the tax burden by income class. His figures result from averaging all the higher education subsidies together and separating the recipients by income class.

---

[32] Hansen and Weisbrod suggest that with such a pattern,... "Either a change in the state and local tax structure-- to make it more progressive--or a change in the system of user charges for higher education--to charge on the basis of ability to pay, and where necessary, to provide generous supplements to low income students--seems called for." p.86

[33] Using a slightly altered method (namely, considering family income distribution throughout the state) D.M. Windham obtained data from Florida revealing a tax structure in which... "for families with incomes below $10,000 the benefits of higher education..were negative, and for families above $10,000 they were positive." Quoted in FINANCING HIGHER EDUCATION: THE ALTERNATIVES FOR THE FEDERAL GOVERNMENT, p.339
See also Windham, EDUCATION, EQUALITY AND INCOME REDISTRIBUTION, Lexington, Mass: D.C. Heath and Company, 1970. p.51

[34] "The taxes actually paid in the lowest income classes for public higher education in California are smaller than the

(continued on next page)

But Hansen and Weisbrod assert that one cannot average the higher education subsidy together since the subsidy a student receives is dependent upon the type of public institution he attends.[35] In short, they assert that while the poor pay a large total tax bill, they are grouped in the public higher educational institutions which offer the least total subsidy return. Some of their taxes are therefore going to support other higher institutions which they are not attending. The question is one of averaging. From the point of view of income, a few lower income students may be benefiting greatly from attending the highest cost institution, (the University of California), but the majority of students in the lower income category are attending the lowest cost institutions, the community colleges, and not receiving the same level of subsidy as wealthier persons who can most afford to pay for their education.

From the point of view then of cost-benefit analysis, the key questions for a state remain: having carefully defined the costs which it is now supporting, the costs which it is asking the parent/student combination to bear, and further, the benefits which each is deriving, a) does the state feel impelled to pay for those benefits which could best be called monetarily unrealizable or unmeasurable--an educated citizenry, the possibility of increased economic growth from educated individuals, and other indirect social benefits? If, in terms of political decisions the answer is yes, then b) does the state also feel compelled to pay for these costs even if an individual will undertake higher education without any extra subsidy. In short, does the state wish to subsidize those who, on the basis of income and motivation, have no need of added financial support (either in the form of low tuition or scholarship)? If the answer to this latter question is yes, then the state must evaluate the extent to which any subsidy to higher education can most efficiently be used towards meeting the total costs of obtaining higher education.

---

[34] (continued)
benefits received by families in these same classes."
Joseph Pechman, "The Distributional Effects of Public Higher Education in California" THE JOURNAL OF HUMAN RESOURCES, Vol. 3, Summer 1970, p. 364

[35] "...the magnitude of higher education subsidy received depends primarily on the system attended rather than directly on family income."
W. Lee Hansen and Burton Weisbrod, "On the Distribution of Costs and Benefits of Public Higher Education: Reply" THE JOURNAL OF HUMAN RESOURCES. 1971. p. 367

At this juncture the viability of the concept of "foregone income" attains considerable importance, in that, in the interests of equality of opportunity, as well as the quality of education, some judgment should be made as to the incidence of higher education costs for all income levels. If indeed, as many have proposed, "foregone income" is a significant factor for lower and many middle income groups, then the way in which state support is provided for higher education will have a significant effect not only on access but on the effective tax and cost burden borne by the student/parent combination.[36] On this basis, subsidy in the form of zero tuition, or tuition waiver as a form of aid, (while perhaps at present most simple for the institutions) may be of little consequence in providing a level of access which could be called fully equal.

A BRIEF RECONSIDERATION

The above description of cost-benefit analysis may give a clearer picture of the advantages and limitations of this approach (long used in some form in considerations of public policy, and public taxation). However, it is worth summarizing some of the key limitations to cost-benefit analysis:

A. The difficulty of quantifying and weighing the importance of the non-monetary benefits received by either the private or social sector. These benefits depend heavily upon individual choice and preference on the one hand, and on political judgments (in the case of society at large) on the other.

B. In terms of projections for the future, cost-benefit analysis is only as good as the estimations of future income, taxes, and courses of action based on past experience and intuition.

---

[36] See Bolton, IBID, p.32. It is important to note that with rising living and educational costs, the person receiving the least alternate transfer payments (welfare, social security, unemployment), at child bearing age, and spending the greater proportion of his income for consumer items (food, clothing, housing) may likely be bearing the most regressive tax burden. Several studies have suggested that this income range at present is the $7,000 to $10,000. In California the median income at junior colleges was $8,800--at this institutional level, the net subsidy was also the smallest.

C. Cost-benefit analysis depends on a certain degree of comparability of things, such as skill categories (historian, economist, engineer) or at least a comparability of goals in order to evaluate benefits on the basis of monetary criteria.

D. Without much more extensive analysis of the entire range of local, state and federal services (welfare, social security, unemployment, medical care) cost-benefit analysis will remain quite inexact in considering the entire range of benefits and the incidence of costs for the population. However, it would seem that with education (particularly higher education) which receives an increasing portion of governmental expenditures, a great disparity between the cost burden and the benefits of that education is inequitable.

Finally, we should end by noting some of the advantages which commend the discipline of cost-benefit analysis to most major governmental units:

A. Significantly, it is an attempt to relate the payment of funds to the eventual result of their use--this approach has attractiveness to those who find "accountability" to be an important aspect of public policy.

B. It provides some clarity in considering the ways in which monetary costs and benefits are in fact being allocated. One can certainly use more money than seems necessary when non-monetary considerations are uppermost, but without knowing in fact who is receiving the benefits of governmental expenditures, discussions about unmeasurable benefits remain in the realm of mere speculation.

C. It provides one approach to discovering just what proportion of a state's or nation's resources have actually been committed to education. To this extent, it can be more "rationally" understood how education is an investment in the welfare and productivity of the nation.

APPENDIX 3: SUMMARY OF STUDENT RESOURCES SURVEY

Following is the summary which appears in the report on the Student Resources Survey conducted by the College Entrance Examination Board for the California State Scholarship and Loan Commission. The full report is to be published in December, 1972.

STUDENT RESOURCE SURVEY (SRS)

REPORT SUMMARY

The Student Resource Survey was conducted by the State Scholarship and Loan Commission in conjunction with California's four segments of higher education. As a summary of 160,000 student responses to a questionnaire, this report paints statistical portraits of students in many poses and hopefully will help us perceive the shape of student financial aid (both grant and self-help programs), the patterns of paying for college and progress toward educational opportunity.

Because of differences in sample size and techniques among the four segments, the report requires cautious interpretation when intersegmental comparisons are concerned.

1. Size of the Survey Population

Questionnaires were received from 160,870 students, undergraduate and graduate, full-time and part-time, enrolled in 81 institutions of higher education in California. The number of participating institutions and the sample size for each segment of higher education is:

The University of California --- 9 institutions --- 63,740 respondents.

The California State University and Colleges --- 11 institutions --- 47,252 respondents.

Independent Colleges and Universities --- 41 institutions --- 12,182 respondents.

California Community Colleges --- 20 institutions --- 37,696 respondents.

The sample sizes reflect the data collection technique used by the segment.

The four-year public segments (U.C. and C.S.U.C.) generally distributed questionnaires to their full populations at registration. The Independent Colleges and Community Colleges generally employed sampling approaches that distributed questionnaires to only part of the student body (See Chapter I - Methodology).

2. Confidence Level

This report is based on anonymous, unverified student responses to questionnaires containing 67 to 69 questions.

With the exception of those reservations noted in the text, the research team generally has a high degree of confidence in the honesty, reliability, and consistency of the student response. (Chapter I)

3. Profiles of Student Characteristics

Chapter I presents a profile of the total respondent population derived from SRS responses. The following summary statements were extracted from the profile characteristics.

A. Age of Students

The median age of all students in the survey population was 23 years. Community College students (mean = 24.5) were substantially older than their lower division (freshmen and sophomores) counterparts in four-year institutions (with an aggregate mean below 20 years). Among the four segments, the University of California had the youngest average age at all class levels followed closely by the Independent Colleges. State University and Colleges students tended to be somewhat older than the University of California and Independent Institution students.

B. Ethnic Background

In the total survey population, 98.7% of all respondents answered the ethnic identification question. More than 71% of the students described themselves as White or Caucasian, 5% identified themselves as Black/Afro-American/Negro and 7% as Chicano/Mexican-American or Other Spanish Speaking American. Oriental Asian-American constituted 6.7% of the responses. An American Indian/Native American background was claimed by 3.2% of respondents but as noted in the text, this appears to be a substantial overstatement. The highest percentage of students identifying themselves as other than White was in the Community College population (37.3% of respondents) with the lowest percentages of other than Whites reported by the University of California respondents (22.5%).

C. Degree Plans and Aspirations

Only 9.5% of the students in the total survey population do not plan on obtaining at least a bachelor's degree. Of the Community College respondents, 65.2% plan on a bachelor's or higher degree. For the total sample, 27.5% plan on a doctoral degree, 34% plan on obtaining masters degrees and 29.1% a bachelor's degree.

D. Parental Income

The median 1971 income of the parents of students in the total sample fell between $12,000 and $14,999.

In general, the Community Colleges and the State University and Colleges had the greater percentages of students from low income families (under $6,000) while the University of California and the Independent Colleges reported higher percentages with over $18,000 family incomes. This is reflected in the mean family income for each segment. The Independent Colleges - $15,650; the University of California - $15,160; the California State University and Colleges - $12,330; and the Community Colleges - $11,420.

E. Employment

The majority (56.7%) of the students in the survey reported working on a part-time job during the school year. Community College and State University and College students were more likely to be employed and reported longer working hours than Independent Colleges and University of California students.

F. Personal Earnings

In the total survey population, 63.3% of the students reported total 1971 earnings (including spouses' earnings where applicable) in excess of $1000. For most students, employment was the major source of money to meet college costs.

G. Self-Supporting Status

Approximately half of the students in the total survey population considered themselves to be primarily self-supporting. The largest percentage of self-supporting students is found in the California State University and Colleges sample (57.3%) with the smallest percentage at the Independent Colleges (38.8%). Approximately 3 out of every 10 students in the total survey population meet the Federal Office of Education criteria for legal emancipation.

H. Educational Indebtedness

In the survey population, 31.3% of the respondents indicated long-term educational indebtedness. Independent Colleges students were most likely to borrow and had higher average loans than their public institution counterparts. Educational loans in excess of $2500 were reported by 8.4% of the survey population.

I. Applicants for Student Aid

Less than 20% of the respondent population reported receiving financial aid through their institution in 1971-72. The average was greatly affected by the Community College responses with only 6% of these students reporting themselves as aided.

Independent Colleges students were more likely to apply (50%) for aid to receive assistance through the school (38.3%). Approximately 5,500 students reported that they were denied aid because no funds were available.

J. Veterans' Status of Respondents

A substantial percentage (16%) of the respondents reported themselves as veterans of the United States Armed Forces. Veterans comprised 24.7% of the Community College sample and 21.2% of the CSUC sample. They were less likely to be found in the University of California (8.3%) or in the Independent Colleges (10.7%).

4. Student Maintenance Budgets (Chapter III)

The average maintenance budget was computed for sub-populations of students in all segments. The maintenance budget excludes tuition and fees but includes all academic year (September 1971 to June 1972 generally) expenses for books and supplies, transportation, room and board, and clothing, recreation and incidental expenses.

Two major patterns were noted:

1) Community College students consistently reported lower living costs than four-year institution students

in all the sub-populations analyzed.

2) Women similarly reported lower expenses than men in all segments.

For dependent undergraduates living away from the family home, the nine month maintenance budgets by segments are: University of California - $1850; California State University and Colleges - $1840; Independent Colleges - $1950; and Community Colleges - $1670.

5. Patterns in Paying for Higher Education (Chapter IV)

The average resource utilized by students in financing their higher education was computed for a number of student sub-populations. The analysis makes one point quite clear; student self-help in the form of employment earnings, loans, and personal savings (presumably from prior employment) is the major resource for California students. Self-help comprises 51.2% of the total resources at the University of California; 68.8% at California State University and Colleges; 47.7% at Independent Colleges; and 72.1% at Community Colleges. Average total resources for the survey population are: University of California - $2870; California State University and Colleges - $1830; Independent Colleges - $3310; and Community Colleges - $1400.

Two major differences were noted and the differences parallel the findings on average budgets. Women report

$600 to $800 less total resources than men and Community College students in all the sub-populations analyzed report substantially less resources than four-year institution students.

Parental Contribution

Parental support is an important resource for Independent Colleges students (32% of total resources) and University of California students (30% of total resources). It is much less important to California State University and Colleges and Community College students (16% and 11% of total resources respectively). A comparison of families within the same income ranges indicates higher parental support at more expensive institutions. In general, actual parental support falls short of the expected College Scholarship Service standard parental contribution. The analysis indicated the following pattern: Low income families (under $6,000) provide more than the CSS expected contribution; middle income families ($6,000 to $12,000) generally approach the expected norm; and higher income families (over $12,000) often provide substantially less support than the standard contribution would indicate.

The amount of actual parental contribution is obviously tied to the amount the student needs to meet his educational costs. As previously noted, many students report substantial earnings. Thus, their need for parental support is considerably lessened and the parental contribution reflects this lower need for funds.

However, there does seem to be an increasing reluctance on the part of a growing number of parents to provide substantial dollar support to their student sons and daughters. An analysis of dependent undergraduate students attending Independent Institutions reveals the following:

1) Parental contributions of under $200 were reported by 28.1% of the respondents as contrasted to the 14.5% of the same population with expected CSS parental contribution under $200.

2) Conversely, 50.2% of the respondents in the same group reported parental contribution over $1,000. The CSS expected parental contributions would indicate that 70.3% of the respondents should have received parental contributions over $1,000.

The data clearly indicated that students are paying more of the educational bills and parents less. It does not, however, tell us who is making this decision -- parents or students.

6. Student Aid and Resource Profile (Chapter V)

Chapter V contains detailed profiles of aid programs and other financial resources for each segment. In general, aid programs are most available at higher cost institutions (the Independents and the University of California) and less available at the lower cost public institutions (California State University and Colleges and the Community Colleges). In all segments, students with financial need were denied aid because the institutions had insufficient aid funds to assist them.

7. Educational Loan Indebtedness of Students (Chapter VI)
One out of every three students in four-year institutions is borrowing to finance his education: There is a strong correlation between class level and indebtedness, i.e., the longer a student goes to school the more likely he is to borrow and the more he borrows. Self-supporting students are more likely to borrow than are other groups. It would appear that borrowing is increasing and that substantial numbers of students will complete their educations with debts in excess of $3,000 to $5,000.

8. Special Student Groups (Chapter VII)
Chapter VII compares three ethnic minorities (Black, Chicano and Oriental) to the total survey population. It also compares the responses of men and women students. All of the groups analyzed do demonstrate areas of significant differences from the total population and from each other. As the differences appear to be interrelated no attempt is made in this summary to select conclusions. The chapter should be read in its

entirety.

9. The Limitations of the SRS Project

This Student Resource Survey study has collected an immense amount of information from about 160,000 plus students in California institutions of higher education. The analysis performed to date has barely penetrated the surface of the wealth of data available. Hopefully, the report will be of value in identifying current patterns in paying for higher education and in the administration of student aid programs. The data is descriptive of how things are, but does not explain why they are that way or how they should be. Further study on the 'why' and 'how' question is mandatory if the present state and federal debate on financing problems in higher education are to be concluded wisely.

BIBLIOGRAPHY

Adams, Walter and A.J. Jaffe. "Economic Returns on the College Investment",CHANGE, November 1971. p.8ff.

AN IRRATIONAL TAX STRUCTURE: AN IMPERILED SCHOOL SYSTEM, National Educational Association Publications, Commission on Professional Rights and Responbilities. October, 1971.

Balderston,F.E. & Weathersby, "PPBS in Higher Education, Planning and Management: Part I, An Overview." (Mimeo)

Benezet, Louis T., "Higher Education is not a Commodity," an address at the 26th National Conference on Higher Education of the American Association for Higher Education. 14 November 1971.

Bolton, Roger E., "The Economics and Public Financing of Higher Education: An Overview," in THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES, a compendium of papers for the JOINT ECONOMIC COMMITTEE, Congress of the United States. USGPO, Washington, D.C. 1969.

_____, THE PUBLIC FINANCING OF HIGHER EDUCATION, a manuscript draft, not published. 1970.

Bowen, Howard R., "Finance and Aims of American Higher Education," in FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT, M.D. Orwig, Editor. The American College Testing Program, Iowa City, 1971.

_____, THE FINANCE OF HIGHER EDUCATION, Carnegie Commission on Higher Education, McGraw-Hill, New York, 1968.

_____, "Statement to the California Joint Legislative Committee to Study the Master Plan," Sacramento: January 5-6, 1972.

Boyd, Joseph D., 1971-72 UNDERGRADUATE COMPREHENSIVE STATE SCHOLARSHIP/GRANT PROGRAMS, THIRD ANNUAL SURVEY, SEPTEMBER 1971, Illinois State Scholarship Commission, P.O.BOX 607, Deerfield, Illinois 60015.

Boyd, Joseph , AN EXAMINATION OF STATE EFFORTS IN REMOVING FINANCIAL BARRIERS TO POST-SECONDARY EDUCATION, An unpublished manuscript for the Illinois State Scholarship Commission. 1969.

Brannon, Gerard M., CONTINGENT REPAYMENT EDUCATION LOANS RELATED TO INCOME, Report to the Department of the Treasury, Washington, D.C. December 28, 1967.

Brown, David G., "Criteria for Pruning Programs," EDUCATIONAL RECORD, Fall, 1970.

Buchanan, James M., "Taxpayer Constraints on Financing Education," in NATIONAL EDUCATIONAL FINANCE PROJECT. Vol. 2, Economic Factors Affecting the Financing of Education. Ch. 9, pp. 265-290.

Cage, Bob N., and Fowler, Herman R., "Cost Analysis: First Step Toward Differentiated Funding," NATIONAL EDUCATIONAL FINANCE PROJECT, January, 1971. 17 p.

Cartter, Alan M., "Aftereffects of Blind Eye to Telescope," EDUCATIONAL RECORD, Vol. 51, No. 4, Fall 1970.

Chambers, M.M., APPROPRIATIONS OF STATE TAX FUNDS FOR OPERATING EXPENSES OF HIGHER EDUCATION 1970-71, National Association of State Universities and Land-Grant Colleges, Office of Institutional Research, Washington D.C., October 1971.

Chambers, M.M., HIGHER EDUCATION: WHO PAYS? WHO GAINS? Printers and Publishers, Bloomington, Indiana, 1968.

Cheit, Earl J., THE NEW DEPRESSION IN HIGHER EDUCATION: A Study of Financial Conditions at 41 Colleges and Universities. A General Report for the Carnegie Commission on Higher Education and the Ford Foundation, McGraw-Hill, New York, 1971.

Clurman, Michael, "Does Higher Education Need More Money," in THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES, for the JEC of Congress, USGPO, 1969.

Cohn, E., Gifford, A., and Sharkansky, I., "Benefits and Costs of Higher Education and Income Redistribution: Three Comments," THE JOURNAL OF HUMAN RESOURCES, Vol. 2.

College Entrance Examination Board, Southern Regional Office, STUDIES OF STUDENT FINANCIAL AID PROGRAMS AND NEEDS IN FLORIDA, for the Department of Education, Division of Elementary and Secondary Education, Tallahassee, Florida, Vol. 1, February 1970.

Collins, Charles C., "Financing Higher Education, A Proposal," EDUCATIONAL RECORD, Vol. 51, No. 4, Fall 1970.

Commission on the Financing of Higher Education, State of Illinois, A REPORT TO THE BOARD OF HIGHER EDUCATION, STATE OF ILLINOIS. Springfield, Illinois, March, 1972.

Connery, Robert H., Ed. THE CORPORATION AND THE CAMPUS: CORPORATE SUPPORT OF HIGHER EDUCATION IN THE 1970's, Proceedings of the Academy of Political Science, 1970.

Curry, Denis J., "Implementation of Planning and Management Systems in Statewide Higher Education Agencies," A REPORT TO THE WASHINGTON COUNCIL ON HIGHER EDUCATION, July, 1971.

Daniere, Andre, HIGHER EDUCATION IN THE AMERICAN ECONOMY, Random House, New York, 1964.

Dyer, James S., ASSESSING THE EFFECTS OF CHANGES IN THE COST OF HIGHER EDUCATION TO THE STUDENT, Rand Corporation, June 1970.

Feldman, Paul and Hoenack, Stephan A., "Private Demand for Higher Education in the United States," in THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES, 1969.

Ferrin, Richard I., A DECADE OF CHANGE IN FREE-ACCESS HIGHER EDUCATION, College Entrance Examination Board, New York, 1971.

FINANCIAL STATUS OF THE PUBLIC SCHOOLS 1970, The National Educational Association, Washington, D.C., 1970. 54 p.

FINANCING HIGHER EDUCATION: Alternatives for the Federal Government. M.D. Orwig, Editor, The American College Testing Program, Research and Development Division, Iowa City, Iowa. Monograph Five, 1971.

FINANCING HIGHER EDUCATION, Report of Task Force III to the Connecticut Commission for Higher Education, December 1970.

"Four Task Forces Report to the Connecticut Commission for Higher Education A Summary of Their Recommendations," ACTION FOR THE 70's, Hartford, Conn., December 1970.

Freeman, Roger A., CRISIS IN COLLEGE FINANCE: TIME FOR NEW SOLUTIONS, Institute for Social Science Research, Washington D.C., 1965.

Freeman, R.A., LAST CHANCE TO SAVE THE PRIVATE COLLEGE: A SPECIAL REPORT ON THE FINANCING OF HIGHER EDUCATION, The American Conservative Union, Washington, D.C., 1969.

Friedman, Milton, CAPITALISM AND FREEDOM, University of Chicago Press, Chicago, Illinois, 1962.

Friedman, Milton, "The Higher Schooling in America," PUBLIC INTEREST. Spring 1968.

Froomkin, Joseph, ASPIRATIONS, ENROLLMENTS AND RESOURCES, U.S. Department of Health, Education and Welfare, Office of Education, USGPO, 1970.

Giles, F.T. and Wiese, H., MOBILITY OF UNDERGRADUATE COLLEGE STUDENTS BETWEEN WASHINGTON COLLEGES AND UNIVERSITIES, AUTUMN 1970. University of Washington, Seattle, March 1971.

Goffman, Irving J., "Some Economic Considerations for Determining Additional Education Expenditures," Paper presented at the National Education Finance Project National Center, December 7, 1970.

Governor's Task Force Study on Higher Education, STUDENT FINANCIAL AIDS, Committee Working Papers, Sacramento May 1971.

Hanford, G.H., and Nelson, J.E., "Federal Student Loan Plans: The Dangers are Real," COLLEGE BOARD REVIEW, No. 75, Spring 1970. pp. 16-21

Hansen, W.L. and Weisbrod, B.A. A NEW APPROACH TO HIGHER EDUCATION FINANCE, University of Wisconsin, Institute for Research on Poverty, Madison, Wis. 1970.

Hansen, W. Lee, "An Examination of Financial Barriers to College Attendance," TRENDS IN POSTSECONDARY EDUCATION, U.S. Department of Health, Education and Welfare, Office of Education, USGPO, Washington, D.C. October 1970.

_____, BENEFITS, COSTS, AND FINANCE OF PUBLIC HIGHER EDUCATION, Markham Publishing Company, Chicago, 1969.

_____, "On the Distribution of Costs and Benefits of Public Higher Education: Reply." THE JOURNAL OF HUMAN RESOURCES.

Hartman, R.W., "What's Wrong with Federal Student Loans?" COLLEGE BOARD REVIEW, No. 77, Fall 1970. pp. 22-23 (A Reply to Hanford & Nelson)

Hazlett, J.A., "Should Each State Assume Full Responsibility for Financing Public Education?" A paper for the American Association of School Administrators Annual Convention, Fall 1971.

Hegedus, Rita, EDUCATION VOUCHERS, for the Delaware State Department Public Instruction, April 7, 1971.

Hiemstra, R.P. EDUCATION INVESTMENTS AND ECONOMIC GROWTH: A CASE STUDY IN CONTINUING AND COMMUNITY EDUCATION. Unpublished Ph.D.thesis on microfilm, Michigan University. 1970.

Hinson, J.P. "Higher Education--How to Pay," NEW ENGLAND ECONOMIC REVIEW, Federal Reserve Bank of Boston, March/April 1971, p.3-22.

_____, "Student Loan Programs for Higher Education...Part 1," THE NEW ENGLAND BUSINESS REVIEW, Federal Reserve Bank of Boston, June 1968, p. 2-11. "Part 2" July 1968, p. 2-15.

Hodgkinson, H.L., untitled survey of AAHE membership reported in March 20, 1972 CHRONICLE OF HIGHER EDUCATION. p. 7

INSTITUTIONAL AID: FEDERAL SUPPORT TO COLLEGES AND UNIVERSITIES, A Report and Recommendations by the Carnegie Commission on Higher Education, McGraw-Hill, New York, February 1972.

ISSUES OF GRANTS AND LOANS TO INDIVIDUALS, OREGON AS A CASE STUDY. An Interim Report, Student Projects, Inc. at the University of Oregon. Prepared for the Consumer Research Center, September 1971.

Jellema, William W., "The Red and the Black," FINANCIAL STATUS, PRESENT AND PROJECTED OF PRIVATE INSTITUTIONS OF HIGHER LEARNING, Association of American Colleges, 1971.

Jencks, C., "Social Stratification and Higher Education," FINANCING HIGHER EDUCATION: ALTERNATIVES FOR THE FEDERAL GOVERNMENT, M.D. Orwig, Editor, ACT, 1971.

Johnstone, D.B., "Who Will Pay for Tomorrow's Tuitions...and How?" Lecture at the American Alumni Council, District I conference, January 25, 1972.

_____, "Federal Support for Higher Education: Budget Alternatives and Implications," (Rough Draft Manuscript--January 1972)

_____, Wackman, D.B., and Scott Ward, "Student Attitudes Toward Income Contingent Loans," THE JOURNAL OF STUDENT FINANCIAL AID, NASFAA, Vol. 2, No. 1, March 1972.

JOINT REPORT ON 1970-71 STUDENT CHARGES, National Association of State Universities and Land-Grant Colleges and American Association of State Colleges and Universities, Washington, D.C. October 1970.

Joyner, F.L. "What is the Responsibility of State Government?" in PROCEEDINGS: A SYMPOSIUM OF FINANCING HIGHER EDUCATION. Southern Regional Education Board, June 12, 1969. pp. 28-34.

Keith, H.L. and Chambers, M.M., "The Future Financing of Higher Education in the State of Indiana. Long-Range Needs and Resources, working papers.

Kirkpatrick, J.I., "Financing Higher Education: The Role of the State," COLLEGE BOARD REVIEW, No. 79, Spring 1971. pp. 22-25.

LESS TIME, MORE OPTIONS: EDUCATION BEYOND THE HIGH SCHOOL. A Special Report and Recommendations by the Carnegie Commission on Higher Education, McGraw-Hill, New York, January 1971.

Levin, H.M. and Osman, J.W., ALTERNATIVE METHODS OF STATE SUPPORT FOR INDEPENDENT HIGHER EDUCATION IN CALIFORNIA, Coordinating Council for Higher Education, Sacramento, January 1, 1970.

Levin, Henry M., "The Costs to the Nation of Inadequate Education" A Report to the SELECT COMMITTEE ON EQUAL EDUCATIONAL OPPORTUNITY, UNITED STATES SENATE. January 1972. USGPO

MANUAL FOR FINANCIAL AID OFFICERS, 1970 Edition, College Scholarship Service, New York, CEEB, 1970.

MASTER PLAN FOR HIGHER EDUCATION IN CALIFORNIA, 1960-1975, Legislature of the State of California, 1960, in cooperation with the State Department of Education; implemented in the Donahoe Act, 1960, Sacramento.

Millett, J.D., "Who Should Pay?" Discussion Paper for the American Association for Higher Education, March, 1972.

Morrison, R.J., "The Negative Income Tax and the Private Institution," EDUCATIONAL RECORD, Vol. 51, No. 4, Fall 1970.

Mundel, D.S.,FEDERAL AID TO HIGHER EDUCATION: AN ANALYSIS OF FEDERAL SUBSIDIES TO UNDERGRADUATE EDUCATION. Paper prepared for the JOINT ECONOMIC COMMITTEE of Congress, (Not for Publication) December 1971.

Mushkin, S.J., "A Note on State and Local Financing of Higher Education," in THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES, USGPO, Washington, D.C., 1969.

NEW APPROACHES TO STUDENT FINANCIAL AID, Report of the Panel on Student Financial Need Analysis, Allan M. Cartter, Chairman. College Entrance Examination Board, New York, 1971.

NEW YORK STATE AND PRIVATE HIGHER EDUCATION, Report of the Select Committee on the Future of Private and Independent Higher Education in New York State. 1968.

New York State Department of Education, Bureau of Research in Higher and Professional Education, THE VOUCHER SYSTEM AND HIGHER EDUCATION IN NEW YORK STATE, Albany, 1970. p. 33ff.

Orwig, M.D., TOWARD MORE EQUITABLE DISTRIBUTION OF COLLEGE STUDENT AID FUNDS: PROBLEMS IN ASSESSING STUDENT FINANCIAL NEED. American College Testing Research Report No. 43. ACT, Iowa City, May 1971.

Owen, J.D., TOWARDS A MORE CONSISTENT, SOCIALLY RELEVANT COLLEGE SCHOLARSHIP POLICY, The Center for the Study of Social Organization of Schools, Johns Hopkins University, Baltimore, 1970. ERIC#ED036280

Pechman, J.A., "The Distributional Effects of Public Higher Education in California," THE JOURNAL OF HUMAN RESOURCES, Vol. 5, Summer 1970. p.361-70.

REPORT AND RECOMMENDATIONS of the NORTH CAROLINA LEGISLATIVE STUDY COMMISSION on STUDENT FINANCIAL AID, North Carolina Board of Higher Education, Raleigh, March, 1971 (Parts I & II)

REPORT OF THE STATE TASK FORCE ON THE FINANCING OF HIGHER EDUCATION IN NEW YORK STATE, Albany, February, 1972.

Regents of the University of the State of New York, FINANCING HIGHER EDUCATION IN THE DECADE AHEAD, State Education Department, Albany, January 1972.

Rivlin, Alice M. and Weiss, J.H. "Social Goals and Federal Support of Higher Education--The Implications of Various Strategies," THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES, SUGPO, Washington, D.C., 1969.

_____, SYSTEMATIC THINKING FOR SOCIAL ACTION, The Brookings Institution, Washington, D.C., 1971.

Roose, K.D. "Aid to Students--Or to Institutions?" EDUCATIONAL RECORD, Vol. 51, No. 4, Fall 1970.

Schultz, T.W., "Resources for Higher Education: An Economist's View," JOURNAL OF POLITICAL ECONOMY, May/June 1968.

_____, THE ECONOMIC VALUE OF EDUCATION, Columbia University Press, New York, 1963.

Shannon, J., "Equalizing Education Opportunity--The State and Federal Roles," A statement presented to Chief State School Officers Council, November 17, 1970.

Shulman, C.H., FINANCING HIGHER EDUCATION, ERIC Clearing House, March 1971. Review #3.

Simon, K.A. and Fullam, M.G., PROJECTIONS OF EDUCATION STATISTICS TO 1979-80, National Center for Education Statistics, U.S. Dept. of HEW, Washington, D.C., 1970.

Strayer, G.D., PUBLIC EDUCATION IN WASHINGTON, A Report of a Survey of Public Education in the State of Washington. Submitted to Governor Wallgren, September 5, 1946.

STRENGTHENING PRIVATE HIGHER EDUCATION IN ILLINOIS: A REPORT ON THE STATE'S ROLE, Illinois Board of Higher Education, Springfield.

"Students Case Against Tuition," D. Allen, Editor, and abstract from papers prepared by the members of 1970 Senior Research Seminar, Economics Department, San Jose State College, San Jose.

Thackrey, R.I. "Thoughts on the Financing of Higher Education," SCHOOL AND SOCIETY, Vol. 96, 1968.

THE CAPITOL AND THE CAMPUS: STATE RESPONSIBILITY FOR POSTSECONDARY EDUCATION. A Report and Recommendations by The Carnegie Commission on Higher Education. New Jersey: McGraw-Hill Book Company, April 1971.

THE CHALLENGE OF ACHIEVEMENT, A Report on Public and Private Higher Education in California, The Joint Committee on Higher Education of the California Legislature, Sacramento, 1969.

THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES, A Compendium of Papers, Joint Economic Committee, Congress of the United States, 91st Congress, 1st Session, USGPO, Washington, D.C., 1969.

"The Educational Opportunity Bank: An Economic Analysis of a Contingent Repayment Loan Program for Higher Education", NATIONAL TAX JOURNAL, Vol. 21, No. 1, March 1968, p.2.

THE POLITICS AND ECONOMICS OF SCHOOL FINANCE, ERIC Clearinghouse Abstracts Series #15.

Friedman, Milton, "The Higher Schooling in America," PUBLIC INTEREST, Spring, 1968.

THE REPORT OF THE COMMISSION ON THE FINANCING OF HIGHER EDUCATION, State of Illinois, Board of Higher Education, Springfield, March, 1972.

Tonsor, Stephen J., "Student Autonomy and Financial Independence in Education Beyond the Secondary Level." THE CRISES IN STUDENT FINANCIAL AID. Proceedings of an Invitational Conference, January 22-23, 1970/Atlanta, **Georgia**, Southern Regional Office, CEEG. pp. 29-45.

U.S. Department of Commerce, SURVEY OF CURRENT BUSINESS, Washington, D.C., USGPO, August 1971.

U.S. Department of Commerce, Bureau of the Census, GOVERNMENTAL FINANCES IN 1969-70. Washington, D.C., USGPO, September 1971.

U.S. Department of Commerce, Bureau of the Census, CURRENT POPULATION REPORTS, Series P-25, Washington, D.C.,USGPO, No. 468.

U.S. Department of Health, Education and Welfare, Office of Education, FALL ENROLLMENT IN HIGHER EDUCATION, 1970: SUPPLEMENTARY INFORMATION, Summary Data, Washington, D.C. USGPO OE54052-70.

U.S. Department of Health, Education and Welfare, Office of Education, REPORT ON HIGHER EDUCATION, The "Newman Report". Washington, D.C.: USGPO, March 1971.

______, Office of the Assistant Secretary for Planning and Evaluation, TOWARD A LONG-RANGE PLAN FOR FEDERAL FINANCIAL SUPPORT FOR HIGHER EDUCATION, The "Rivlin" Report, USGPO, Washington, D.C., 1968.

______, Office of Education, TOWARD UNIVERSAL POSTSECONDARY EDUCATIONAL OPPORTUNITY, Parts I, II, III, USGPO, Washington, D.C., 1969.

Windham, D.M., EDUCATION, EQUALITY, AND INCOME REDISTRIBUTION, D.C. Heath & Co., Lexington, 1970.

Wolk, R.A., ALTERNATIVE METHODS OF FEDERAL FUNDING FOR HIGHER EDUCATION, Carnegie Commission on Higher Education, Berkeley, 1968.

Wurster, S.R. "Philanthropy as a Source to Finance Higher Education.", A synthesis paper, unpublished manuscript, 1970.